



**City of Flowery Branch
City Council Meeting
Thursday, July 21, 2022, 6:00 PM
City of Flowery Branch City Hall
5410 West Pine Street, Flowery Branch, GA 30542**



CALL WORK SESSION TO ORDER:

INVOCATION:

PLEDGE OF ALLEGIANCE:

ADOPTION OF AGENDA:

PUBLIC HEARING:

- A public hearing to consider a request submitted by Shadow Stone Partners, LLC to annex and rezone a 14.27 +/- acre tract of land known as tax parcel 08100 001003A from Hall County Agricultural Residential (AR III) to Flowery Branch Planned Unit Development (PUD)
[Cook Communities Applications.pdf](#)
[3c-Parkers Place Development PresentationR.pdf](#)
- A public hearing to consider a request submitted by Edge City Properties, Inc. to rezone a 60.79 +/- acre tract of land known as 5183 Gainesville Street, tax parcel identification number 08098 001019 from Agricultural (A) to Residential Multi-Family (R3).
[Aerial and Colored Rendering Edge City Flowery Branch Master Plan Rendering 7.12.2022.pdf](#)
[Final Application Submitted 5.13.2022.pdf](#)
[Edge City Gainesville St Residential TIS_FINAL.pdf](#)
[SF Detached Renderings.pdf](#)
[Townhome-300colorR1.pdf](#)

NEW BUSINESS -WORK SESSION:

- Award of Contract to NFP for Benefits Consulting and Brokerage Services
[City of Flowery Branch Broker Services and Consulting Agreement.doc](#)
[Executive Summary - Insurance Broker and Benefits services.pdf](#)
- Consideration of Approval of Change Order #3 for Mitchell Street Improvements Project
[G701-2017 - Final_City of Flowery Branch.pdf](#)
[Change order 3 per RFI#4#5#6.pdf](#)
[Executive Summary - Mitchell Street Improvements - Change Order 3.pdf](#)
- Consideration of Approval of Change Order #4 for the Farmers Market Project
[Executive Summary - Change Order 4 - FM Alley.pdf](#)
[G701-2017 - Final-CO # 004_Flowery Branch Farmers Market.pdf](#)
[Supporting Documentation - CO 4.pdf](#)
- Consider a Development Agreement with Makita USA, Inc. for Improvements to the City's Sewer System
[Executive Summary - Development Agreement with Makita \(final\).pdf](#)

- [Development Agreement \(City-Makita\) - v6 Execution Version.pdf](#)
- Consider Master Services Agreement with ESG Engineering, Inc.
[Executive Summary Master Services Agreement with ESG Engineering, Inc..pdf](#)
[MasterAgreement- Flowery Branch.pdf](#)
- Consider Approval of Task Order for Professional Services for ESG Engineering, Inc.
[Executive Summary Task Order for Professional Services for ESG Engineering, Inc..pdf](#)
[ESG Engineering Task Order Agreement for Professional Services.pdf](#)
- Approval of Change Order for Martin Elementary School Wastewater Line Rehabilitation Project to the Dickerson Group, Inc.
[Executive Summary Approval of Change Order for Martin ES Wastewater Line Rehabilitation Project to the Dickerson Group, Inc..pdf](#)
[20220628_062529.pdf](#)
- First Amendment to the Development Agreement with Flowery Branch Apartments Owner, LLC for Improvements to the City's Sewer System.
[Executive Summary - Amendment to Development Agreement with Flowery Branch Apartments Owner, LLC.pdf](#)
[First Amendment - Sewer Development Agreement.pdf](#)
[Raised Manholes Exhibit.pdf](#)
- Consider Approving the Folksong Escrow Agreement
[Folksong Escrow Agreement.pdf](#)
[Executive Summary - Escrow Agreement Folksong-Woodfield.pdf](#)
- Consider Approving an Estoppel Agreement in connection with the sale of the Woodfield Apartment Complex Development.
[Woodfield Rezoning Ordinance.pdf](#)
[Woodfield Sewer Development Agreement.pdf](#)
[Trail Easement Book09113Page0627.pdf](#)
[Executive Summary - Woodfield Estoppel Agreement ERB Rev - final.pdf](#)
[Raised_Manholes_Exhibit.pdf](#)
[First_Amendment_-_Sewer_Development_Agreement.pdf](#)
[Starlight \(Folksong\) - City Agreement Estoppel 4894-9613-5967_3.pdf](#)
- Lease Commission Agreement with Century 21 Connect Realty
[Executive Summary - Century 21 commission agreement.pdf](#)
[Commercial Lease Commission Agreement3.pdf](#)
- Award Construction of 250,000 Gallon Elevated Water Tank to Phoenix Fabricators & Erectors
[FB Bid 22-008 Phoenix Ltr of Rec.pdf](#)
[FB 22-008 Bid Tabulation.pdf](#)
[Executive Summary - award 250,000 gallon elevated water tank Phoenix.pdf](#)
[FB 22-008 Water Tank 1 Improvements Contract Set of Specifications.pdf](#)

DEPARTMENT REPORTS: - a. City Manager Report

- b. City Clerk Report
- c. Downtown/Events Report
- d. Finance Director Report
- e. Planning Department Report
- f. Police Report
- g. Attorney Report
- h. Council Report

ADJOURNMENT WORK SESSION:**VOTING SESSION AGENDA****CALL VOTING SESSION TO ORDER:****PUBLIC COMMENTS:** - Please limit to two minutes**CONSENT AGENDA:**

- Consider June 16, 2022 Special Called Meeting Minutes
[June 16, 2022 Special Called Meeting Minutes - Unofficial.pdf](#)
- Consider June 16, 2022 City Council Meeting Minutes
[June 16, 2022 City Council Meeting Minutes - Unofficial.pdf](#)
- Consider June 23, 2022 Special Called City Council Meeting Minutes
[June 23, 2022 Special Called City Council Meeting Minutes - Unofficial.pdf](#)

NEW BUSINESS - VOTING SESSION:

- Consider First Read of Ordinance 667 - A request submitted by Milstead Homes, LLC. to Rezone a .36 +/- tract of land known as 5224 Chattahoochee Street from R-1 (Detached Single-Family, Low Density) to Flowery Branch R-3 (Residential Multi-Family)
[Letter to Coucil - Flowery Branch.pdf](#)
[Staff Report Chattahoochee Overlook.pdf](#)
[House Plan Renderings.pdf](#)
[Survey - 2-Single Family.pdf](#)
[Chattahoochee Overlook Ordinance.pdf](#)
- Consider First Read of Ordinances 665 and 666 - Requests from Chattahoochee Construction Managers, LLC/MQ Development, LLC to Rezone two tracts of land from Residential, Detached Single-Family, Moderate-Density District (R-2) to Residential Multi-Family District (R-3). Tract one is a 3.52+/- acre tract of land identified as 5674 Mulberry Street, tax parcel number 08116 000023, tract two is a 4.7+/- acre tract of land identified as 5740 Mulberry Street, tax parcel number 08116 000022.
[Mulberry Townhomes Parcel 1.pdf](#)
[Mulberry Townhomes Parcel 2.pdf](#)
[Staff Report Mulberry Townhomes.pdf](#)
[Ordinances 665 and 666.pdf](#)
- Award of Contract to NFP for Benefits Consulting and Brokerage Services
[City of Flowery Branch Broker Services and Consulting Agreement.doc](#)
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EXECUTIVE SESSION:**ADJOURNMENT:**

If you have a disability or impairment and need special assistance please contact the City Clerk prior to the meeting at 770-967-6371 - Meeting agenda is subject to change



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: A public hearing to consider a request submitted by Shadow Stone Partners, LLC to annex and rezone a 14.27 +/- acre tract of land known as tax parcel 08100 001003A from Hall County Agricultural Residential (AR III) to Flowery Branch Planned Unit Development (PUD)

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

FACTS AND ISSUES:

Annex and rezone a 14.27 +/- acre tract of land from Hall County Agricultural Residential (AR III) to Flowery Branch Planned Unit Development (PUD) with the intent to develop and construct a 49-unit age restricted townhome community.

Proposed Schedule:

July 21, 2022 – Public Hearing

August 4, 2022 - Work Session (if requested)

August 18, 2022 – First Read and First Vote

September 1, 2022 – Work Session (if requested)

September 15, 2022- Second and Final Vote

OPTIONS:

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

Public hearing only - no action taken at this meeting.

SAMPLE MOTION:

No vote at this time.

COLLABORATING DEPARTMENT:

DEPARTMENT: Planning

Prepared by: Shelia Cooper

ATTACHMENTS

- [Cook Communities Applications.pdf](#)
- [3c-Parkers Place Development PresentationR.pdf](#)



ANNEXATION APPLICATION

Date: 4/29/22

Address of Request:

5704 Jim Crow Road

Flowery Branch, GA 30542

Submitted to the City Clerk per The Flowery Branch Code of Ordinances;
Appendix C, "Zoning Ordinance", Article 44; Section 44.4 on

City Clerk Signature

Applicant Information

Name: Cook Communities

Address: 3120 Frontage Road
Gainesville, GA 30504

E-mail address: gcook@cook-residentail.com

Phone number: 678-207-1500

Signature:

Property owner information (if different than the applicant)

Property owner (please print): Shadow Stone Partners, LLC

Signature of property owner:



Property Information

Tax Map Number: 08100 001003A

Current Zoning: AR3 Total Acres: 14.268

Is this property contiguous to the city-limits of Flowery Branch? Yes

Proposed City of Flowery Branch Zoning: PUD

Proposed City of Flowery Branch Character Area: Residential

Current Use: Residential

Per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 36; Does this property potentially require a **DRI** (Development of Regional Impact) study? No

Voting Rights Act Information

Resident Population: _____ Housing Units: _____ Other Buildings: _____

Race Population %: White _____ Black _____ Hispanic _____ Other _____

Please provide the following at time of submittal in (one hard copy and digitally):

- Legal description
- Current survey of property
- Detailed description of request
- Conflict of interest disclosure (attached)
- Disclosure of campaign contributions (attached)
- Zoning application
- Annexation ≥ 100 acres of land requires an official request to amend the character area and future land use map designation for the subject property
- Names and addresses of adjoining property owners
- Reasons for requesting annexation
- Signed statement authorizing City of Flowery Branch staff and/or City Council to inspect the subject property



Conflict of Interest Disclosure

Identify all members of the City Council of the City of Flowery Branch and Employees of the City of Flowery Branch Community Development Department who

Have a property interest in the real property affected by this request

N/A

Have a financial interest (direct ownership interest) of the total assets or capital stock of a business entity where such ownership interest is more than 10% in any business entity which has a property interest in the real property affected by this request

N/A

Have a member of the family (spouse, mother, father, brother, sister, son or daughter) having a property financial interest as herein defined, in the real property affected by this request

N/A

Disclosure of Campaign Contributions

List below the names of local government officials of the City of Flowery Branch to whom campaign contributions were made, within two (2) years immediately preceding the filing of this application, which campaign contributions total \$250.00 or more or to whom gifts were made having a total value of \$250.00 or more.

Elected Officials Name

Amount of Description of Gift

N/A

N/A



REZONING APPLICATION

Date: 4/29/22

Address of Request: 5704 Jim Crow Road
Flowery Branch, GA 30542

Tax Map # 08100 001003A Current Zoning: AR3

Is this site located within the boundaries of the historic district? No

Currently a conforming use? No

Any conditions of zoning, CUP's, etc.? No

Applicant Information

Name: Cook Communities

Address: 3120 Frontage Road
Gainesville, GA 30504

E-mail address: gcook@cook-residential.com

Phone number: 678-207-1500

Signature: 

Notary: 







Property owner information (if different than the applicant)

Property owner (please print): Shadowstone Partners, LLC

Signature of property owner: _____

Notary: _____



Property Information

Tax Map Number: 08100 001003A

Current Zoning: AR3 Total Acres: 14.268

Is this property located within the city-limits of Flowery Branch? No

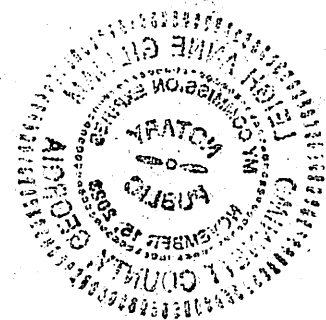
Proposed City of Flowery Branch Zoning: PUD

Current Use: Residential

Please review the Flowery Branch Code of Ordinances, Appendix C, "Zoning Ordinance", Article 34, for complete requirements.

Please provide the following at time of submittal in (one hard copy and digitally):

- Legal description
- Current survey of property





- Site plan shall meet the requirements of the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.5
- Development statistics per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.6
- Analysis requirements per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.7
- Detailed description of request
- Conflict of interest disclosure (attached)
- Disclosure of campaign contributions (attached)
- Names and addresses of adjoining property owners
- Reasons for requesting rezoning
- Signed statement authorizing City of Flowery Branch staff and/or City Council to inspect the subject property

Conflict of Interest Disclosure

Identify all members of the City Council of the City of Flowery Branch and Employees of the City of Flowery Branch Community Development Department who

Have a property interest in the real property affected by this request

N/A

Have a financial interest (direct ownership interest) of the total assets or capital stock of a business entity where such ownership interest is more than 10% in any business entity which has a property interest in the real property affected by this request

N/A

Have a member of the family (spouse, mother, father, brother, sister, son or daughter) having a property financial interest as herein defined, in the real property affected by this request

N/A



Disclosure of Campaign Contributions

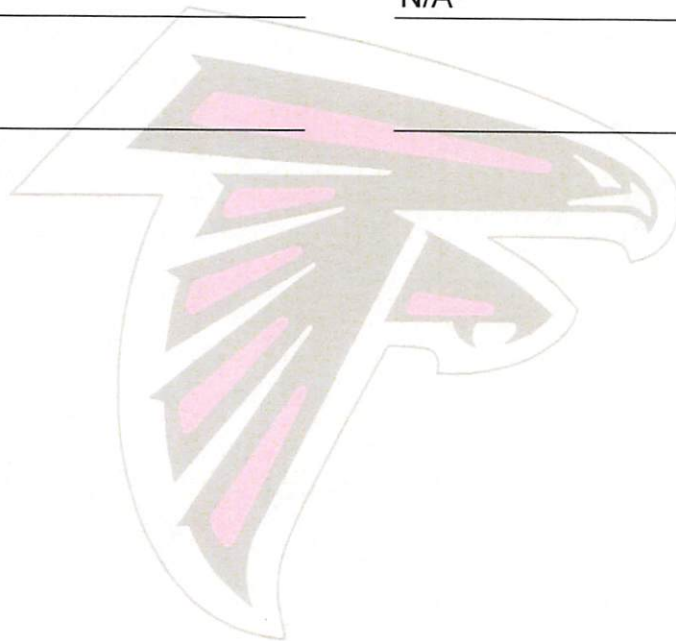
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Elected Officials Name

Amount of Description of Gift

N/A

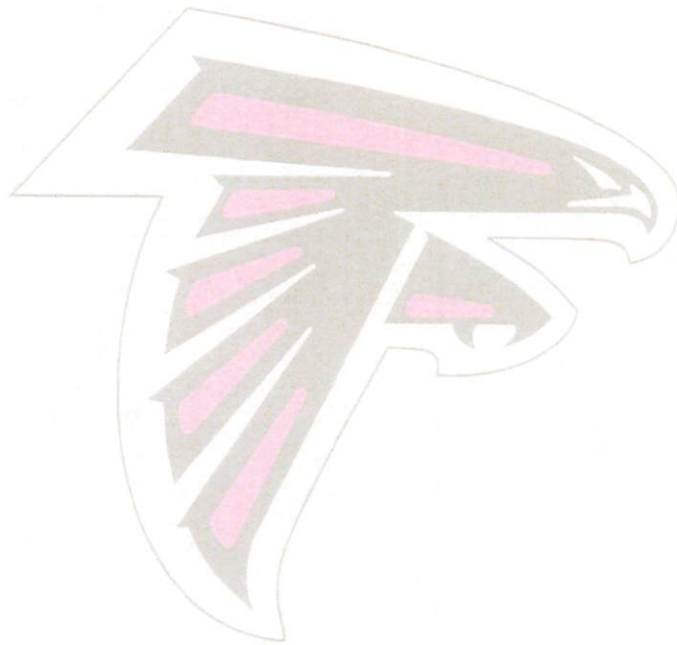
N/A

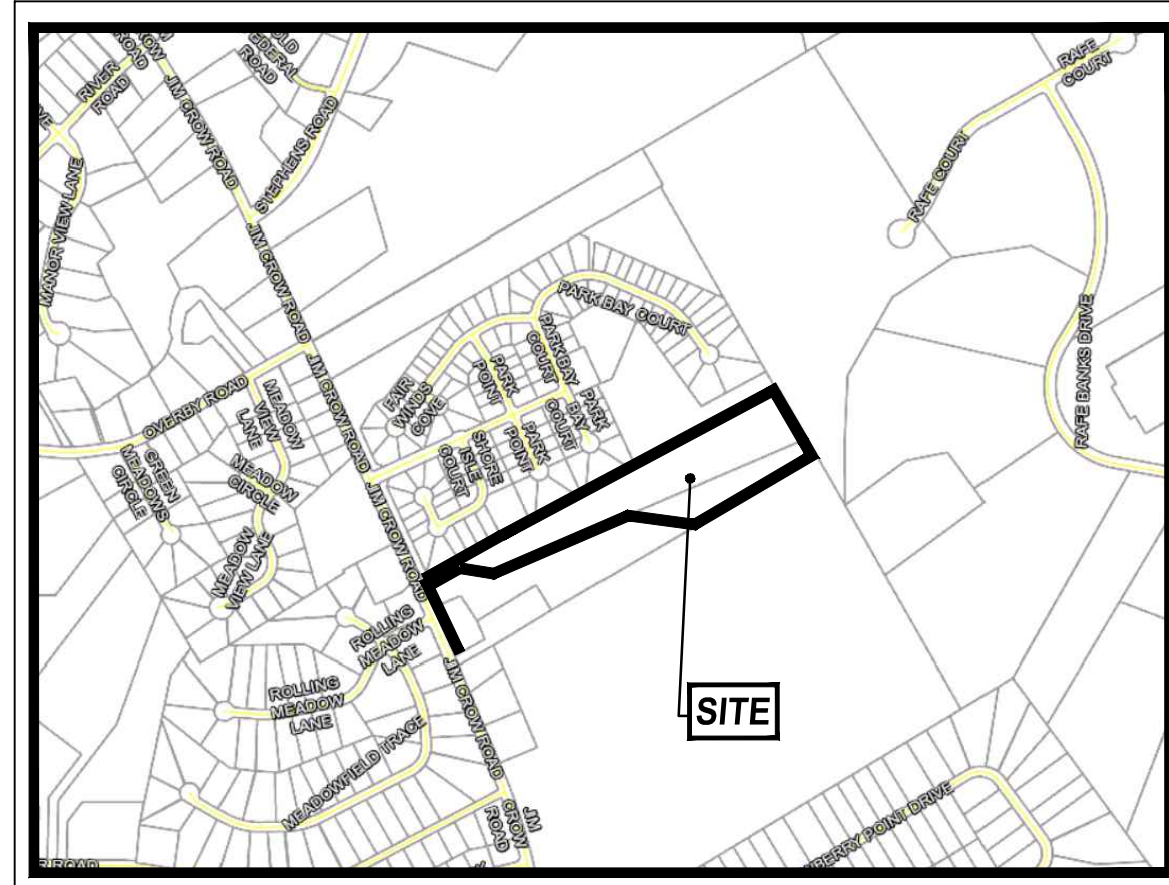


CITY STAFF ONLY

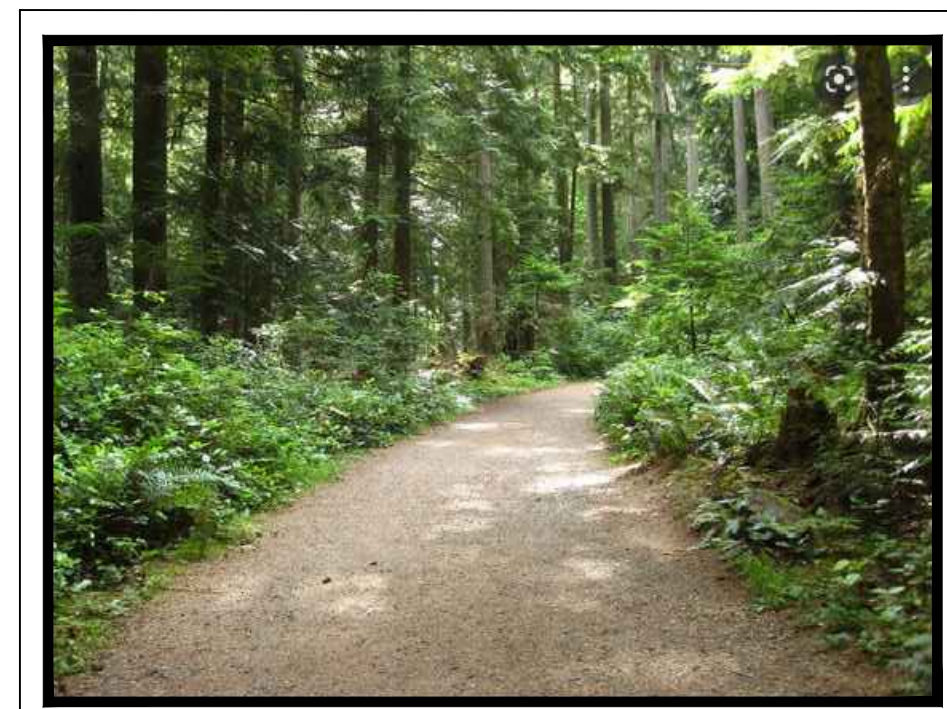
Application Received By: _____

Date: _____ Total Fee: _____





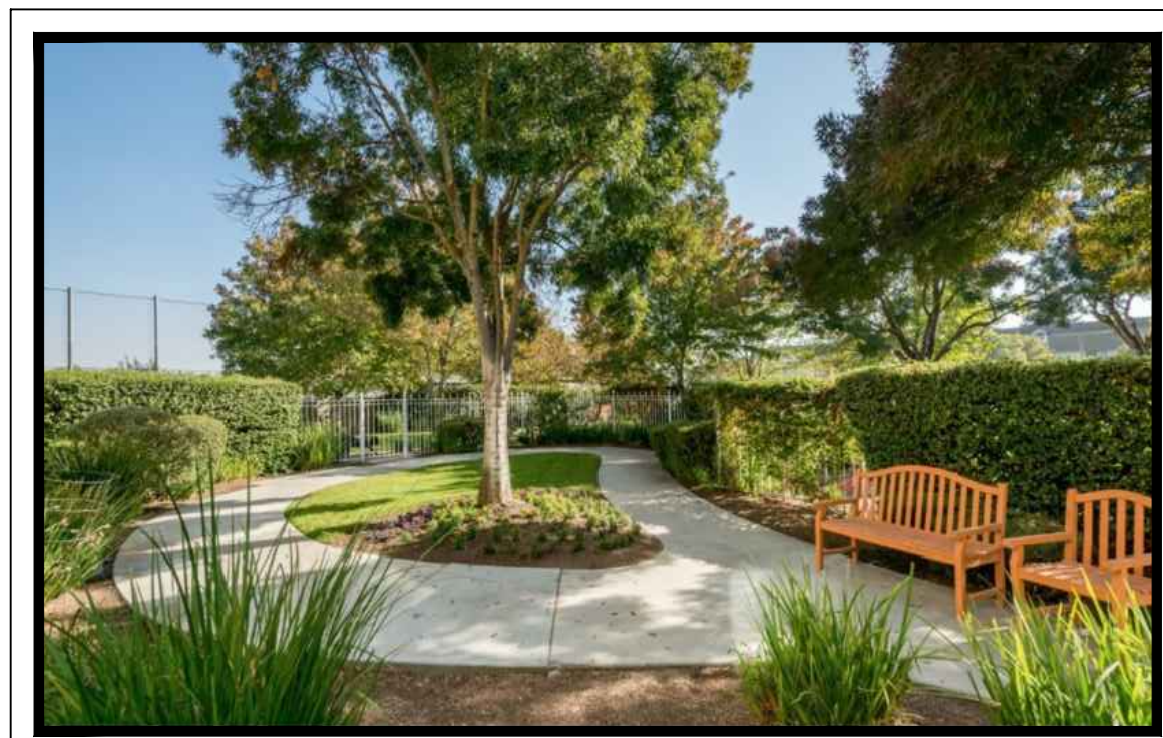
VICINITY MAP
N.T.S.



PROPOSED WALKING TRAIL
N.T.S.



**CONCEPTUAL ENTRANCE
MONUMENT SIGN**
N.T.S.



PROPOSED POCKET PARK
N.T.S.



PROPOSED WALKING TRAIL
N.T.S.

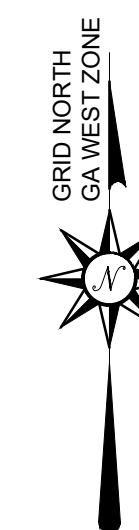
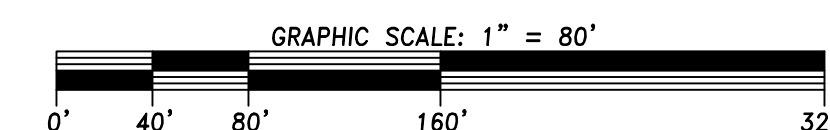


PROPOSED PICKLEBALL COURTS
N.T.S.

- GENERAL NOTES:**
1. TOTAL PROPERTY ACREAGE = 14.268 ACRES (TOTAL)
 2. CURRENT ZONING = AR-III (HALL COUNTY)
 3. PROPOSED ZONING = PUD
 4. PROPOSED USE = SINGLE-FAMILY ATTACHED SUBDIVISION
(49 LOTS TOTAL)
 5. PROPOSED DENSITY = 3.43 UNITS/ACRE
 6. PROPOSED OPENSOURCE/Common AREA = ±5.9 ACRES
(41%).
 7. PROPOSED SETBACKS:

FRONT YARD = 20'/30' (20' FROM PERIMETER &
30' FROM STREET)

REAR YARD = 20'
SIDE YARD = 5'
MIN. LOT SIZE = 2,000 S.F. (FEE SIMPLE)
MIN. LOT WIDTH = 20'
 8. BOUNDARY INFORMATION BASED UPON DEED RESEARCH.
 9. WATER TO BE PROVIDED BY THE CITY OF GAINESVILLE.
SEWER SERVICE TO BE PROVIDED BY THE CITY OF
FLOWERY BRANCH.
 10. A PORTION OF THIS PROPERTY IS LOCATED WITHIN A
SPECIAL FLOOD HAZARD ZONE AS PER HALL COUNTY
F.I.R.M. PANEL No. 13139C02836 EFFECTIVE 4/4/2018.
 11. OPENSOURCE/Common AREA TO BE DEEDED AND
MAINTAINED BY A QUALIFIED HOMEOWNERS ASSOCIATION.
 12. THIS SITE DOES NOT CONTAIN WETLANDS.
 13. THIS SITE IS WITHIN 200' OF STATE WATERS.
 14. THIS SITE DOES NOT CONTAIN ANY KNOWN CEMETERIES.



**3120 FRONTAGE ROAD
GAINESVILLE, GA 30504
(678) 207-1509
www.thecookandcompany.com
P.E.F. #007243**

PREPARED FOR:

**COOK
COMMUNITIES
3120 FRONTAGE RD.
GAINESVILLE, GA 30504
24-HR. CONTACT:
GEOFF COOK
(678) 207-1509**

PROJECT NAME:

**FLOWERY BRANCH
JIM CROW ROAD
TRACT**

TASK:
**REZONING
EXHIBIT**

PROJECT INFORMATION:

FLOWERY BRANCH TRACT

Project Name

21-017

Project Number

JIM CROW ROAD

Project Address

Land Lot No.(s)

District

HALL COUNTY, GEORGIA
County, State

PLAN REVISION

No.	DATE	DESCRIPTION
1		
2		
3		
4		

**G.S.W.C.C. LEVEL II CERTIFIED
DESIGN PROFESSIONAL
No. 0000013059**

CONTACT:
C. LUKE PRESSLEY, P.E.
(678) 267-7153
luke@thecookandcompany.com

SHEET

1 of 1

JWW DESIGN	AS SHOWN SCALE
3/22/22 DATE	21-017 PROJECT No.



April 29th, 2022

City of Flowery Branch
5410 Pine Street
Flowery Branch, GA 30542
(770) 967-6371

LETTER OF INTENT

Rezoning/Annexation for the Parker's Place at Lanier – Flowery Branch, GA
5704 Jim Crow Road – Flowery Branch, GA 30542
Tax Parcel No. 08100 001003A
L.L. 100 / 8th District

(Note: Additional Land has been Purchased and Combined with this Parcel. A copy of the combination Survey is included in this application for clarification – 14.27 Acres total)

Cook Communities submits this Letter of Intent and attached Application for the purpose of rezoning/annexing to the City of Flowery Branch's Planned Unit Development (PUD) Zoning Classification for the 14.27-acre tract located along Jim Crow Road, south of the existing Park Walk at Lanier Residential Development. The property currently lies in unincorporated Hall County and is adjacent to the Flowery Branch City Limits to the north. The subject property is currently zoned AR-III (Hall County) and contains one single family home and associated outbuilding. The intent is to annex the entire property shown on the combination/boundary survey into the City of Flowery Branch. All property included in this application is owned by Shadow Stone Partners, LLC. (See Rezoning Exhibit).

Cook Communities proposes to develop a distinctive and attractive single-family attached neighborhood with amenities. The neighborhood will consist of Forty-nine (49) 1-story attached cottage styles homes and is proposed to be age-restricted for residents 55 and older. Each home will have a minimum of 2-bedrooms and 2-bathrooms and a heated S.F. of 1,450+ S.F. with a 2-Car Garage. The 2-Car garages will be located a minimum of 23' from the back of sidewalk as required. Additionally, the homes will include attractive architectural elements including shake and board and batten siding, stone/brick accents, a variety of unique garage doors and sodded yards. The proposed units are intended to meet the requirements of the recently adopted Ordinance 657 (Article 12 – Section 12.6). Attached to this letter of intent is a rendering of the proposed units for reference. These homes will meet the same quality and price point of homes in the surrounding area.



Amenities proposed for the development include a small community clubhouse, pickleball courts, sidewalks with connected walking trails, pocket parks and attractive landscaping. An exhibit and rendering of the proposed amenities are provided with this submittal for visual reference.

Access for the development will be provided along Jim Crow Road with a proposed right-turn (deceleration) lane provided at the entrance. The entrance will have an attractive monument-type sign with landscaping. The provisions for water and sanitary sewer for the development will be provided by the City of Gainesville and the City of Flowery Branch.

The applicant and its representatives welcome the opportunity to meet with the City of Flowery Branch staff to answer any questions or concerns you may have. Cook Communities respectfully requests your approval of this application.

Respectfully,

A handwritten signature in black ink, appearing to be "Keith Cook", written in a cursive style.

Cook Communities / Keith Cook









April 29th, 2022

City of Flowery Branch
5410 Pine Street
Flowery Branch, GA 30542
(770) 967-6371

DEVELOPMENT STATISTIC AND ANALYSIS

Parker's Place at Lanier – Flowery Branch, GA
5704 Jim Crow Road – Flowery Branch, GA 30542
Tax Parcel No. 08100 001003A
L.L. 100 / 8th District

(Note: Additional Land has been Purchased and Combined with this Parcel. A copy of the combination Survey is included in this application for clarification – 14.27 Acres total)

Development Statistics

As part of this application, a site plan of the proposed development was submitted depicting the subdivision and typical fee simple building lots and proposed units for the neighborhood. The below information is meant to ensure all requested information is included.

- (a) Maximum Height of Proposed Homes – 35'
- (b) Minimum S.F. of proposed Homes –1,450 S.F. (Heated) (1-Story)
- (c) Color Renderings of Proposed Homes are included with this submittal
 - a. (See 2b-Rezoning Exhibit (Rendering).pdf)
- (d) The Proposed Building Materials for the homes are included
 - a. (See Letter of Intent)
- (e) Maximum of 49 Single-Family Attached Homes (Fee Simple Townhome Lots)
 - a. Minimum Lot Size = 2,000 S.F.
 - b. Minimum 1,450 S.F. Heated (2-Car Garage) – 1 Story
- (f) Proposed Overall Lot Coverage (Entire Project) = 30%
- (g) Proposed Landscaped Area
 - a. A minimum of 2 Trees per Lot (See Typical Lot Detail)
 - b. A minimum of 10' Landscape Buffer adjacent to existing neighborhood.
 - c. Pocket Parks and Walking Trails



- (h) Parking will Include:
 - a. 2-Car with Driveway (23' From Back of Sidewalk)
 - b. 5 Spaces for Proposed Mail Kiosk
 - c. 10 Spaces at Proposed Clubhouse and Pickleball Courts
- (i) Will Provide as requested.

Development Analysis

The development being proposed by Cook Communities is in line with the City of Flowery Branch's 2041 Comprehensive Plan. While currently not specifically included (as it lies in Hall County), the adjacent neighborhood (Park Walk at Lanier) has a similar zoning to what is being requested. The 2041 Comprehensive Plan and Future Land use map targets this area as Suburban Residential, and the comprehensive plan suggests smaller lots may be appropriate in a PUD zoning district. Cook Communities feels this development generally meets the objectives of the PUD Zoning district when viewed as a small part of the overall community. While this development proposes only single-family attached homes, it provides the broader mix of residential housing types when viewed as a part of the surrounding neighborhoods. Jim Crow Road contains primarily single-family residential neighborhoods of varying densities from its intersection with McEver Road to its Termination at Lake Lanier. The Parker's Place at Lanier Development is similar to the recent development trend in the area. The adjacent neighborhood statistics are included in the additional material submitted as part of the application. No adverse effect is anticipated from the proposed development as it is inline with the surrounding uses as a single-family residential development. A deceleration lane is proposed at the entrance for cars traveling from McEver Road which will be the primary travel route. The existing use of the Subject Property is a single-family residence with undeveloped acreage. Gravity Sewer is available in the rear portion of the property and public water available along Jim Crow Road. The impact to local schools will be minimal as this will be an age-restricted 55+ community. This portion of Hall County and the City of Flowery Branch has seen significant development in recent years, with an increase in demand for housing of all types. Cook Communities feels this community will provide a housing option that is currently underrepresented in the city. The Parker's Place at Lanier development will meet all the state and City of Flowery Branch's requirements including environmental, erosion and stormwater requirements.

The applicant and its representatives welcome the opportunity to meet with the City of Flowery Branch staff to answer any questions or concerns you may have. Cook Communities respectfully requests your approval of this application.

Exhibit A
Shadow Stone Partners
Parcel No. 08100 001003A

All that tract or parcel of land lying and being in Land Lot 100 of the 8th District, Hall County, Georgia, and being a portion of the lands of Shadow Stone Partners, LLC as recorded in Deed Book 9009, Page 760 of Hall County, Georgia Records. Said tract being described by the following description:

To find the point of beginning, COMMENCE at the intersection of Rolling Meadows Lane (having a 50-foot right-of-way per Plat Book 880, Page 242) and Jim Crow Road (having a 50-foot right-of-way per Plat Book 880, Page 242); Thence leaving said intersection and running along a tie-line, N 17°25'04" W a distance of 224.06 feet to a point on the Easterly right-of-way line of Jim Crow Road, said point having a Georgia Grid North, NAD 83, West Zone value of N: 1531493.7054 E: 2368680.5630 and the TRUE POINT OF BEGINNING; thence leaving said right-of-way, N 60°39'55" E a distance of 521.71 feet to a 1/2 – inch rebar found on the North line of the lands of Shadow Stone Partners, LLC; thence leaving said rebar, N 61°44'00" E a distance of 1488.22 feet to a 1/2 – inch rebar; thence leaving said rebar, S 29°49'03" E a distance of 324.58 feet to an iron pin set; thence leaving said iron pin, S 29°49'03" E a distance of 104.68 feet to a 1/2 – inch rebar; thence leaving said rebar, S 59°38'38" W a distance of 844.04 feet to a point; thence N 82°18'45" W a distance of 414.47 feet to a point; thence S 66°58'36" W a distance of 487.30 feet to an iron pin set; thence leaving said iron pin, N 82°34'39" W a distance of 107.03 feet to a point; thence S 68°20'03" W a distance of 126.25 feet to a point; thence with a curve turning to the left with an arc length of 16.43 feet, with a radius of 325.00 feet, with a chord bearing of S 66°53'10" W, with a chord length of 16.43 feet to a point; thence S 65°26'17" W a distance of 94.28 feet to a point; thence with a curve turning to the left with an arc length of 39.07 feet, with a radius of 25.00 feet, with a chord bearing of S 20°40'01" W, with a chord length of 35.21 feet to a point; thence S 23°44'52" E a distance of 65.57 feet to a point; thence S 23°21'15" E a distance of 117.57 feet to a point; thence S 23°20'49" E a distance of 155.87 feet to a point; thence S 61°16'42" W a distance of 15.07 feet to a point; thence N 23°20'43" W a distance of 274.91 feet to a point; thence N 23°21'42" W a distance of 29.58 feet to a point; thence N 24°06'15" W a distance of 50.27 feet to a point; thence N 24°39'30" W a distance of 34.90 feet to a point; thence N 23°55'32" W a distance of 50.62 to a point, said point being the TRUE POINT OF BEGINNING.

Said tract being a portion of the lands of Shadow Stone Partners, LLC, containing 14.268 acres (621517.6 square feet) dated April 28, 2022.

Return Recorded Document to:
Russell C Petersen, LLC
P.O. Box 6499
Gainesville, GA 30504

eFiled and eRecorded
DATE: 12/10/2021
TIME: 4:07 PM
DEED BOOK: 9009
PAGE: 760 - 761
FILING FEES: \$25.00
TRANSFER TAX: \$450.00
PARTICIPANT ID: 0419150030
PT61: 069-2021-012288
RECORDED BY: NB
CLERK: Charles Baker, C.S.C
Hall County, GA

LIMITED WARRANTY DEED

STATE OF GEORGIA
COUNTY OF HALL

FILE #: 211829RT

THIS INDENTURE made this 3rd day of December, 2021, between RENDA DIANE SMITH of the County of and State of , as party or parties of the first part, hereinafter called Grantor, and SHADOW STONE PARTNERS, LLC as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, successors and assigns where the context requires or permits).

WITNESSETH that: Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable considerations in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Grantee.

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

This Deed is given subject to all easements and restrictions of record.

TO HAVE AND TO HOLD the said tract or parcel of land, together with all and singular the rights, members and appurtenances thereof, to the same being, belonging or in anywise appertaining, to the only proper use, benefit and behoof of the said Grantee, forever in FEE SIMPLE.

AND THE SAID Grantor will warrant and forever defend the right and title to the above described property unto the said Grantee against the claims of all persons by, through and under the above named grantor.

IN WITNESS WHEREOF, Grantor has hereunto set grantor's hand and seal this day and year first above written.

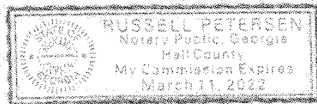
Signed, sealed and delivered in the presence of:

Suzanne Collins
Witness

Renda Diane Smith
RENDIA DIANE SMITH (Seal)

hrr Ptk
Notary Public

(Seal)



Return Recorded Document to:
Russell C Petersen, LLC
P.O. Box 6499
Gainesville, GA 30504

eFiled and eRecorded
DATE: 04/19/2022
TIME: 11:53 AM
DEED BOOK: 9107
PAGE: 159 - 163
FILING FEES: \$25.00
TRANSFER TAX: \$90.00
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 0419150030
PT61: 069-2022-003439
RECORDED BY: CH
CLERK: Charles Baker, C.S.C
Hall County, GA

LIMITED WARRANTY DEED

STATE OF GEORGIA
COUNTY OF HALL

FILE #: 220233RT

THIS INDENTURE made this 14th day of April, 2022, between LEWIS CHARLES SMITH of the County of Hall and State of Georgia, as party or parties of the first part, hereinunder called Grantor, and SHADOWSTONE PARTNERS LLC as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, successors and assigns where the context requires or permits).

WITNESSETH that: Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable considerations in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Grantee.

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF
~~SEE EXHIBIT "B" ATTACHED HERETO AND MADE A PART HEREOF.~~
~~SEE EXHIBIT "C" ATTACHED HERETO AND MADE A PART HEREOF.~~

This Deed is given subject to all easements and restrictions of record.

TO HAVE AND TO HOLD the said tract or parcel of land, together with all and singular the rights, members and appurtenances thereof, to the same being, belonging or in anywise appertaining, to the only proper use, benefit and behoof of the said Grantee, forever in FEE SIMPLE.

AND THE SAID Grantor will warrant and forever defend the right and title to the above described property unto the said Grantee against the claims of all persons by, through and under the above named grantor.

IN WITNESS WHEREOF, Grantor has hereunto set grantor's hand and seal this day and year first above written.

Signed, sealed and delivered in the presence of:



Witness

 (Seal)

LEWIS CHARLES SMITH



Notary Public

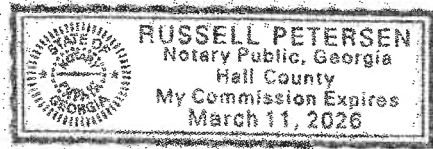


EXHIBIT "A"

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 100 OF THE 8TH DISTRICT, HALL COUNTY, GEORGIA, BEING A 2.01 ACRE TRACT, MORE OR LESS, AS SHOWN ON A SURVEY FOR COOK COMMUNITIES, PREPARED BY C. LUKE PRESSLEY, G.R.L.S. 36163, DATED MARCH 30, 2022, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT S63°15'30"W A DISTANCE OF 1450.11 FEET FROM THE INTERSECTION OF JIM CROW ROAD AND ROLLING MEADOWS LANE, THENCE N66°58'36"E A DISTANCE OF 613.77 FEET TO AN IRON PIN SET; THENCE S29°49'03"E A DISTANCE OF 104.68 FEET TO AN IRON PIN FOUND; THENCE S59°38'38"W A DISTANCE OF 607.77 FEET; THENCE N30°21'22"W A DISTANCE OF 183.01 FEET TO THE POINT OF BEGINNING.

TOGETHER WITH

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 100 OF THE 8TH DISTRICT, HALL COUNTY, GEORGIA, BEING A 0.23 ACRE TRACT, MORE OR LESS, AS SHOWN ON A SURVEY FOR COOK COMMUNITIES, PREPARED BY C. LUKE PRESSLEY, G.R.L.S. 36163, DATED MARCH 30, 2022, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A IRON PIN FOUND ON THE NORTHEASTERN RIGHT OF WAY OF JIM CROW ROAD (50' R/W) LOCATED BY TIE-LINE S15°31'36"E A DISTANCE OF 173.86 FEET FROM THE INTERSECTION OF THE CENTER LINE OF JIM CROW ROAD (50' R/W) WITH THE CENTER LINE OF ROLLING MEADOWS LANE (50' R/W) IF EXTENDED; THENCE N60°35'50"E A DISTANCE OF 198.13 FEET TO AN IRON PIN FOUND (½" REBAR) THENCE S82°34'39"E A DISTANCE OF 194.82 FEET TO A POINT; THENCE S68°20'03"W A DISTANCE OF 126.25 FEET TO A POINT; THENCE FOLLOWING THE ARC OF A CURVE BEING 16.43' HAVING A RADIUS OF 325.00 FEET S66°53'10" FEET A DISTANCE OF 16.43 FEET TO A POINT; THENCE S65°26'17"W 94.12 FEET TO A POINT; THENCE FOLLOWING THE ARC OF A CURVE 38.95' HAVING A RADIUS OF 25.30' S2040°01"W A DISTANCE OF 35.21 FEET TO A POINT; THENCE S23°25'37"E A DISTANCE OF 65.57 FEET TO AN IRON PIN FOUND (½" RB 0.66 FEET INSIDE R/W) THENCE S66°50'37"W A DISTANCE OF 14.61 FEET; THENCE N23°21'42"W A DISTANCE OF 29.58 FEET; THENCE N24°06'15"W A DISTANCE OF 50.27 FEET; THENCE N24°39'30"W A DISTANCE OF 34.90 FEET TO AN IRON PIN FOUND (½ RB) AND THE POINT OF BEGINNING.

L. C. S.

EXHIBIT B

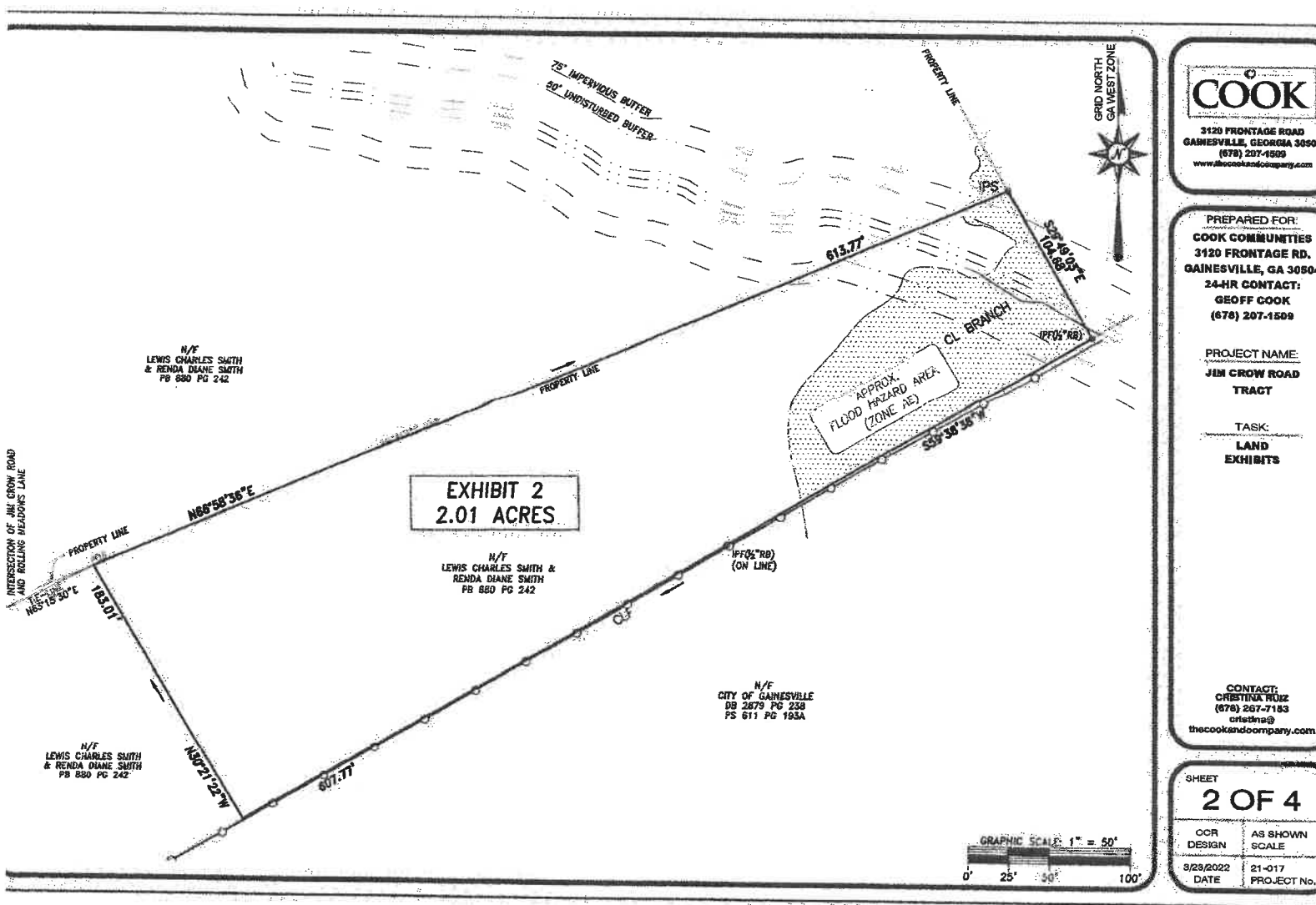
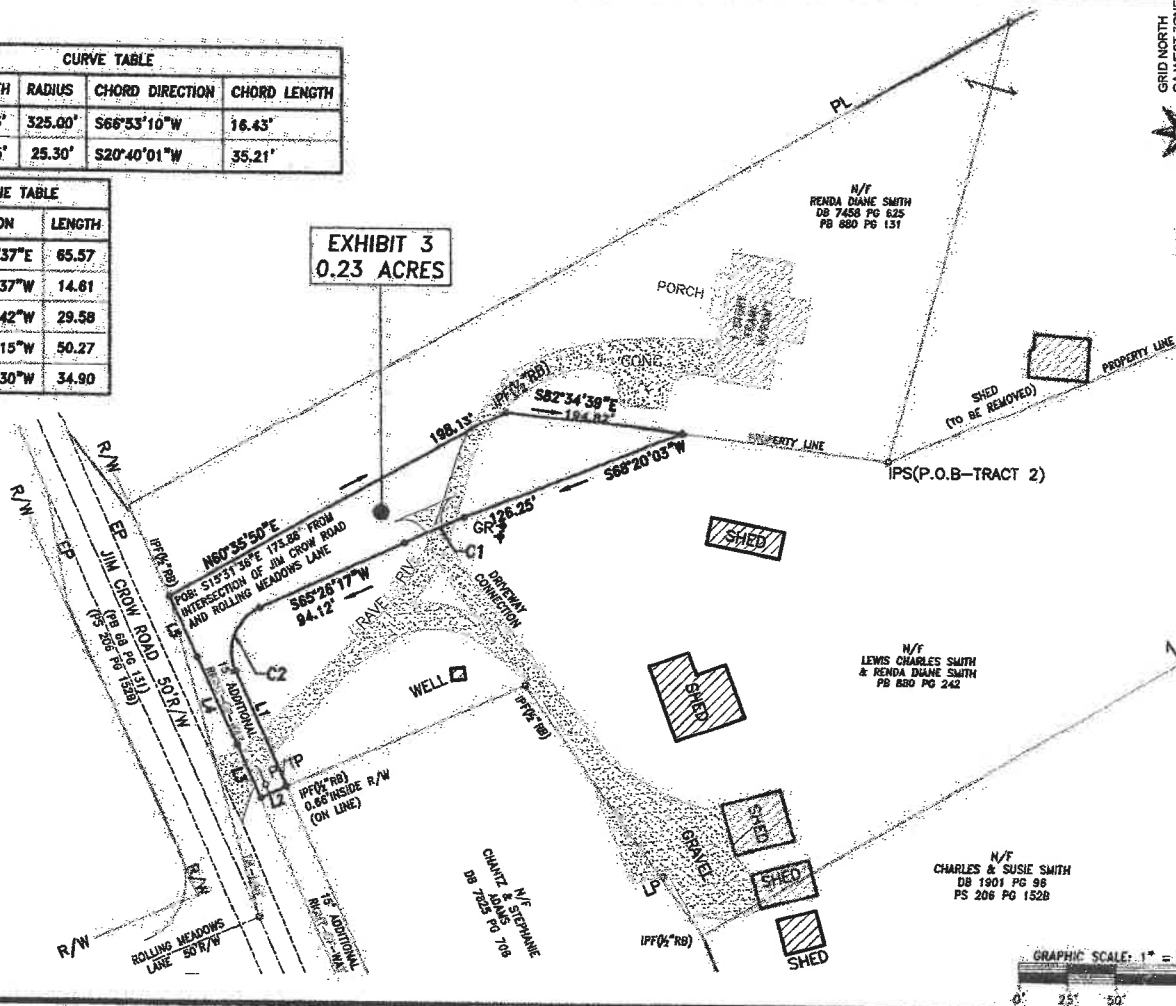


EXHIBIT - C

CURVE #	LENGTH	RADIUS	CHORD DIRECTION	CHORD LENGTH
C1	18.43'	325.00'	S68°53'10"W	18.43'
C2	38.95'	25.30'	S20°40'01"W	35.21'

LINE #	DIRECTION	LENGTH
L1	S23°25'37"E	65.57
L2	S66°50'37"W	14.61
L3	N23°21'42"W	29.58
L4	N24°06'15"W	50.27
L5	N24°39'30"W	34.90



COOK
3120 FRONTAGE ROAD
AINESVILLE, GEORGIA 30504
(678) 267-1589
www.thecookandcompany.com

PREPARED FOR:
COOK COMMUNITIES
3120 FRONTAGE RD.
GAINESVILLE, GA 30504
24-HR CONTACT:
GEOFF COOK
(678) 207-1509

PROJECT NAME:
JIM CROW ROAD
TRACT

TASK:
LAND
EXHIBITS

CONTACT:
CRISTINA RUIZ
(678) 267-7153
cristina@
thecookandcompany.com

SHEET
3 of 4
CCR
DESIGN
3/23/2022
DATE

eFiled and eRecorded
DATE: 04/18/2022
TIME: 1:22 PM
DEED BOOK: 9106
PAGE: 35 - 37
FILING FEES: \$25.00
TRANSFER TAX: \$85.50
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 0419150030
PT61: 069-2022-003374
RECORDED BY: NB
CLERK: Charles Baker, C.S.C
Hall County, GA

Return Recorded Document to:
Russell C Petersen, LLC
P.O. Box 6499
Gainesville, GA 30504

LIMITED WARRANTY DEED

STATE OF GEORGIA
COUNTY OF HALL

FILE #: 220297RT

THIS INDENTURE made this 14th day of April, 2022, between LEWIS CHARLES SMITH of the County of Hall and State of Georgia, as party or parties of the first part, hereinunder called Grantor, and SHADOWSTONE PARTNERS LLC as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, successors and assigns where the context requires or permits).

WITNESSETH that: Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable considerations in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Grantee.

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 100 OF THE 8TH DISTRICT, HALL COUNTY, GEORGIA, BEING A 1.87 ACRE TRACT, MORE OR LESS, AS SHOWN ON A SURVEY FOR COOK COMMUNITIES, PREPARED BY C. LUKE PRESSLEY, G.R.L.S. 36163, DATED MARCH 30, 2022, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT S60°52'30"W A DISTANCE OF 884.75 FEET FROM THE INTERSECTION OF JIM CROW ROAD AND ROLLING MEADOWS LANE, THENCE N66°58'36"E A DISTANCE OF 567.32 FEET; THENCE S30°21'22"E A DISTANCE OF 183.01; THENCE S59°38'38"W A DISTANCE OF 236.27 FEET; THENCE N82°18'45"W A DISTANCE OF 414.47 FEET TO THE POINT OF BEGINNING. **

This Deed is given subject to all easements and restrictions of record.

TO HAVE AND TO HOLD the said tract or parcel of land, together with all and singular the rights, members and appurtenances thereof, to the same being, belonging or in anywise appertaining, to the only proper use, benefit and behoof of the said Grantee, forever in FEE SIMPLE.

AND THE SAID Grantor will warrant and forever defend the right and title to the above described property unto the said Grantee against the claims of all persons by, through and under the above named grantor.

**SEE ALSO EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF BY REFERENCE.

IN WITNESS WHEREOF, Grantor has hereunto set grantor's hand and seal this day and year first above written.

Signed, sealed and delivered in the presence of:


Witness


Notary Public

 (Seal)
LEWIS CHARLES SMITH

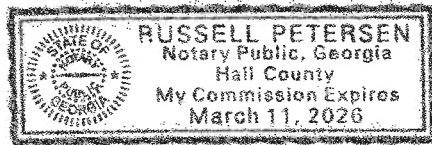
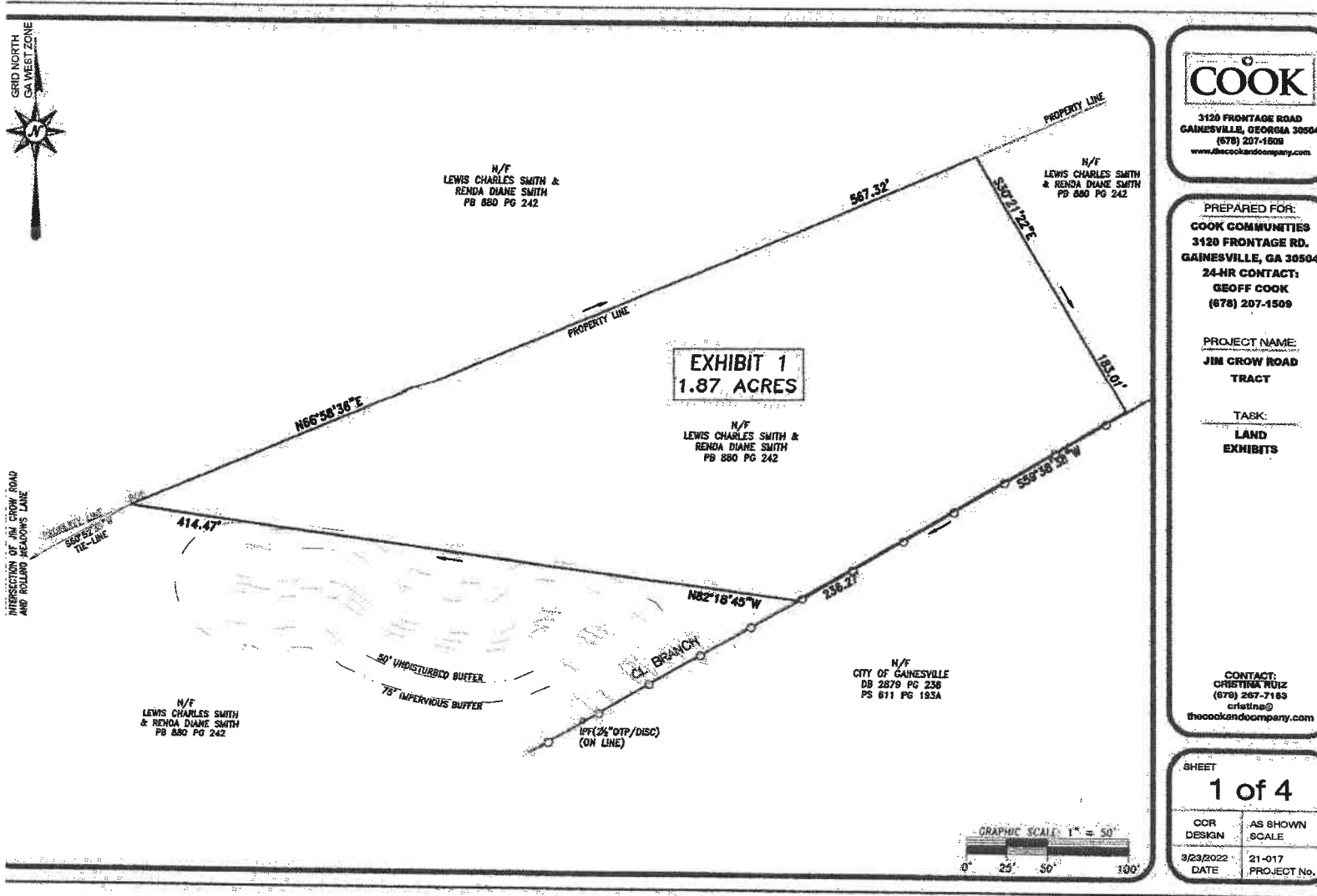


EXHIBIT A



eFiled and eRecorded
DATE: 04/19/2022
TIME: 4:23 PM
DEED BOOK: 9107
PAGE: 488 - 490
FILING FEES: \$25.00
TRANSFER TAX: \$15.00
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 0419150030
PT61: 069-2022-003464
RECORDED BY: NB
CLERK: Charles Baker, C.S.C
Hall County, GA

Return Recorded Document to:
Russell C Petersen, LLC
P.O. Box 6499
Gainesville, GA 30504

LIMITED WARRANTY DEED

STATE OF GEORGIA
COUNTY OF HALL

FILE #: 220232RT

THIS INDENTURE made this 15th day of April, 2022, between CHANTZ ADAMS and STEPHANIE ADAMS of the County of HALL and State of Georgia, as party or parties of the first part, hereinunder called Grantor, and SHADOWSTONE PARTNERS, LLC as party or parties of the second part, hereinafter called Grantee (the words "Grantor" and "Grantee" to include their respective heirs, successors and assigns where the context requires or permits).

WITNESSETH that: Grantor, for and in consideration of the sum of TEN AND NO/100 DOLLARS (\$10.00) and other good and valuable considerations in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged, has granted, bargained, sold, aliened, conveyed and confirmed, and by these presents does grant, bargain, sell, alien, convey and confirm unto the said Grantee.

ALL THAT TRACT OR PARCEL OF LAND LYING AND BEING IN LAND LOT 100 OF THE 8TH DISTRICT, HALL COUNTY, GEORGIA, BEING A 0.09 ACRE TRACT, MORE OR LESS, AS SHOWN ON A SURVEY FOR COOK COMMUNITIES, PREPARED BY C. LUKE PRESSLEY, G.R.L.S. 36163, DATED MARCH 30, 2022, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHEASTERN RIGHT OF WAY OF JIM CROW ROAD (50' R/W) LOCATED BY TIE-LINE S00°15'15"W A DISTANCE OF 62.76 FEET FROM THE INTERSECTION OF THE CENTER LINE OF JIM CROW ROAD (50' R/W) WITH THE CENTER LINE OF ROLLING MEADOWS LANE (50' R/W) IF EXTENDED; THENCE N66°50'37"E A DISTANCE OF 14.61 FEET TO AN IRON PIN FOUND (½" RB 0.66' FEET INSIDE R/W); THENCE S23°21'00"E A DISTANCE OF 273.44 FEET TO A POINT; THENCE S61°16'42"W A DISTANCE OF 15.07 FEET ON THE NORTHEASTER RIGHT OF WAY OF JIM CROW ROAD; THENCE N23°21'00"W A DISTANCE OF 274.91 FEET TO A POINT ON JIM CROW ROAD; WHICH IS THE POINT OF BEGINNING.
****SEE ALSO EXHIBIT A, ATTACHED HERETO AND MADE A PART HEREOF.**

Subject to that security deed from Chantz Adams and Stephanie Adams to Caliber Home Loans, Inc dated July 23, 2021 in the amount of \$118,300.00.

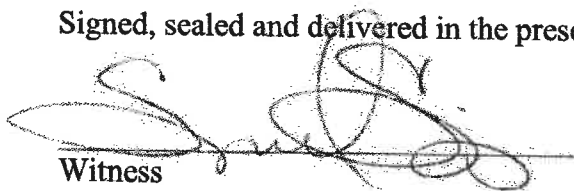
This Deed is given subject to all easements and restrictions of record.

TO HAVE AND TO HOLD the said tract or parcel of land, together with all and singular the rights, members and appurtenances thereof, to the same being, belonging or in anywise appertaining, to the only proper use, benefit and behoof of the said Grantee, forever in FEE SIMPLE.

AND THE SAID Grantor will warrant and forever defend the right and title to the above described property unto the said Grantee against the claims of all persons by, through and under the above named grantor.

IN WITNESS WHEREOF, Grantor has hereunto set grantor's hand and seal this day and year first above written.

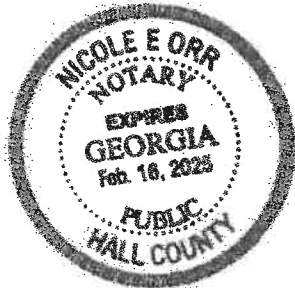
Signed, sealed and delivered in the presence of:

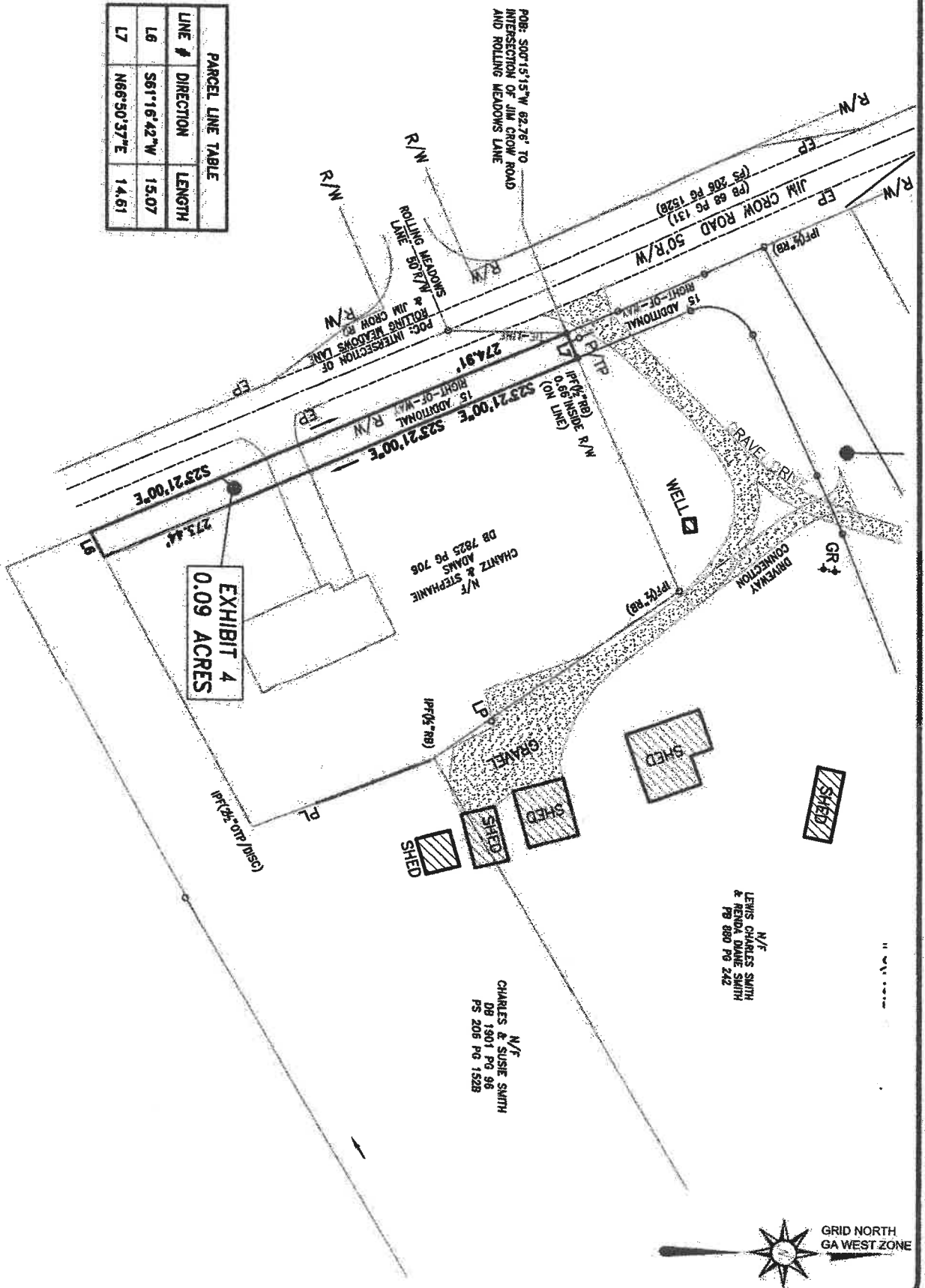

Witness

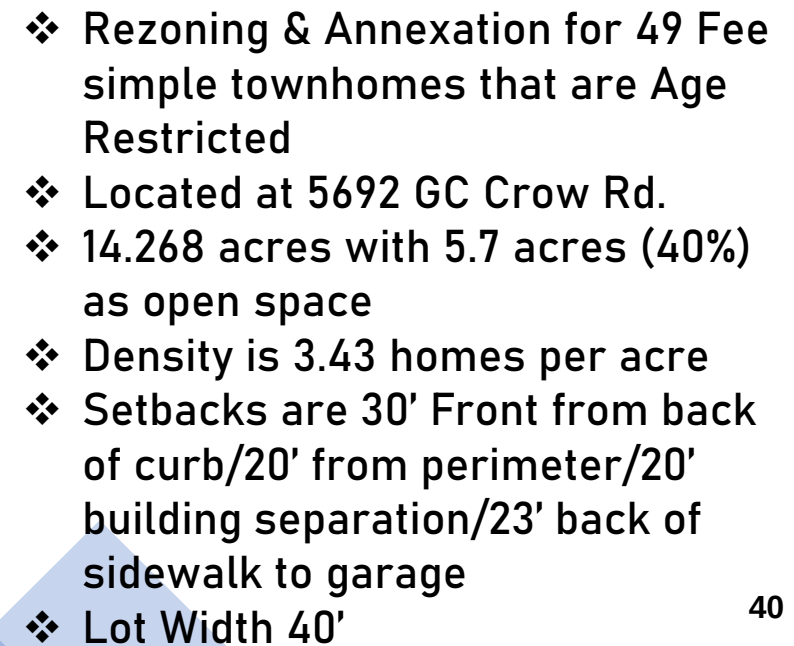
 (Seal)
CHANTZ ADAMS


Notary Public

 (Seal)
STEPHANIE ADAMS





The logo for Cook Communities features the word "COOK" in a large, bold, black serif font. Above the letter "C" is a small red circle with a white "C" inside. Below "COOK" is the word "COMMUNITIES" in a smaller, red, sans-serif font. The entire logo is flanked by two horizontal lines.

Parker's Place

AT LANIER



Parker's Place ATLANIER

Architectural Design

Modern Farmhouse Design

- ❖ Board and Batten with accent stone/brick
- ❖ Architectural roofs/Optional covered porches/Transitional roof lines
- ❖ 2100 square foot homes
- ❖ 3- & 4-bedroom homes with
- ❖ 2 Car Garage
- ❖ Prices start in the \$500's

Landscaping

- ❖ Professionally landscaped sodded yards
- ❖ Trees throughout subdivision and yards
- ❖ Masonry entrance sign with seasonal flowering beds
- ❖ Seasonal flowering beds at entrances
- ❖ 10-foot planted/natural buffer with attractive evergreen trees along neighboring subdivision where needed

Homeowner's Association Controlled

- ❖ Professionally Managed HOA
- ❖ Landscaped/Grass Areas Maintained by HOA
- ❖ Common Area Maintenance by HOA
- ❖ Controlled Parking
- ❖ Neighborhood Watch Implemented
- ❖ Monthly Fees Accessed for Maintenance
- ❖ Amenities include clubhouse, pickleball courts, pocket parks & a walking trail

Utilities

- ❖ Water provided by The City of Gainesville
- ❖ Sewer provided by Hall County
- ❖ Electric provided by Sawnee Electric

Parker's Place AT LANIER

Parker's Place at Lanier to add value to the City of Flowery Branch

Neighboring subdivision comparison of lot size, home square footage and sales price

Summit Lake

- ❖ Home square footage from 2200 to 2600
- ❖ Sales prices vary in the \$300's
- ❖ Lot size vary from .10-.15 of an acre

Park Walk at Lanier

- ❖ Home square footage from 2200 to 3200
- ❖ Sale prices in the low \$400's to low \$300's
- ❖ Lot size vary from .10 to .35 of an acre

Mitchell Street New Homes

- ❖ Home square footage from 2200 to 2600
- ❖ Sale prices in the mid \$500's to low \$600's
- ❖ Lot size vary from .16 to .22 of an acre

Park Haven

- ❖ Home square footage from 2400 to 2700
- ❖ Sales prices vary in the \$300's
- ❖ Lot size vary from .10-.15 of an acre

Parker's Place at Lanier

- ❖ Home square footage from 2100
- ❖ Sales price vary from the \$500's
- ❖ Lot size vary from .12 to .17 of an acre



Parker's Place

A T L A N I E R

Constitution Objections

Facially, and as applied to the Property, the specific portions of the Zoning Ordinance which restrict the Property to any zoning classification, conditions, uses, or to any development other than those proposed by the Applicant and would abolish or damage the Applicant's property rights without paying adequate, fair and just compensation for such rights, in violation of the Constitution of the State of Georgia of 1983 and the Due Process Clause of the Fourteenth Amendment to the United States Constitution.

Facially, and as applied to the Property, the application of City ordinances or which restrict the Property to any zoning classification, conditions, uses, or to any development other than that proposed by the Applicant would result in unconstitutional, illegal, null, and void, constituting a taking and/or damaging of Applicant's Property by denying the Applicant all economically viable use of its land while not substantially advancing legitimate state interests in public health, safety and morals, in violation of the Constitution of the United States under the Just Compensation Clause of the Fifth Amendment and the Equal Protection and Due Process Clause of the Fourteenth Amendment and the Constitution of the State of Georgia of 1983. More specifically, many subdivisions and building lots of similar sized and type homes already exist in the City of Flowery Branch. Refusal to zone the existing properties which do not materially damage the surrounding single-family developments, commercial, transportation warehouse and light industrial properties deprives the owners of any reasonable return on the property without protecting adjoining owners.

The denial of this application would be an arbitrary and capricious act by the City without any rational basis, thus constituting an abuse of discretion in the exercise of the zoning power in violation of the Constitution of the State of Georgia of 1983 and Due Process Clause of the Fourteenth Amendment to the United States Constitution. Furthermore, housing needs are great in the area, other re-zonings are being granted for higher density subdivisions in the City of Flowery Branch. Any refusal by the City to approve this application for the Property would be unconstitutional and discriminate in an arbitrary, capricious, and unreasonable manner between the Applicant and owners of similarly situated property in violation of the Constitution of the State of Georgia of 1983 and the Equal Protection Clause of the Fourteenth Amendment to the United States Constitution.

The Applicant and stakeholders respectfully request approval of this application and are happy to respond to the City of Flowery Branch for any questions or concerns regarding the application.



FLOWERY BRANCH CITY COUNCIL



EXECUTIVE SUMMARY

SUBJECT: A public hearing to consider a request submitted by Edge City Properties, Inc. to rezone a 60.79 +/- acre tract of land known as 5183 Gainesville Street, tax parcel identification number 08098 001019 from Agricultural (A) to Residential Multi-Family (R3).

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

FACTS AND ISSUES:

A request from Edge City Properties, Inc to rezone a 60.79 +/- acre tract of land known as 5183 Gainesville Street and described as tax parcel identification number 08098 001019 from Agriculture (A) to Residential Multi-Family (R-3) with the intention of developing and constructing a residential subdivision consisting of 186 single family detached and 149 townhomes.

Proposed Schedule:

July 21, 2022 – Public Hearing

August 4, 2022 - Work Session (if requested)

August 18, 2022 – First Read and First Vote

September 1, 2022 – Work Session (if requested)

September 15, 2022- Second and Final Vote

OPTIONS:

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

No action at this time - public hearing only.

SAMPLE MOTION:

No action taken at this time.

COLLABORATING DEPARTMENT:

DEPARTMENT: Planning

Prepared by: Shelia Cooper

ATTACHMENTS

- [Aerial and Colored Rendering Edge City Flowery Branch Master Plan Rendering 7.12.2022.pdf](#)
- [Final Application Submitted 5.13.2022.pdf](#)
- [Edge City Gainesville St Residential TIS_FINAL.pdf](#)
- [SF Detached Renderings.pdf](#)
- [Townhome-300colorR1.pdf](#)

SITE ANALYSIS

	NORTH TRACT	SOUTH TRACT	TOTAL
SITE AREA	11.13 ACRES	49.66 ACRES	60.79 ACRES
(A) 24' X 50' TOWNHOMES	0 UNITS	148 UNITS	148 UNITS
(B) 45' X 100' DETACHED LOT	0 UNITS	87 UNITS	87 UNITS
(C) 55' X 100' DETACHED LOT	32 UNITS	167 UNITS	199 UNITS
TOTALS	32 UNITS	303 UNITS	335 UNITS
PER ACRE DENSITY	2.88 U/AC	6.10 U/AC	5.51 U/AC
DATA SOURCES			
MAXIMUM HEIGHT			45 FEET
MAXIMUM NUMBER OF STORIES			3 STORIES
MAXIMUM DENSITY			12 UNITS/AC
MINIMUM LOT SIZE (DETACHED LOT)			4,600 S.F.
MINIMUM LOT WIDTH (AT FRONT SETBACK)			45 FEET
MINIMUM HEATED FLOOR AREA PER DWELLING UNIT			1,000 S.F.
MINIMUM BUILDING SETBACKS			
FRONT			20 FEET
CORNER SIDE			20 FEET
SIDE			45 FEET
REAR			20 FEET
MINIMUM DETACHED HOUSE SEPARATION (FOUNDATION TO FOUNDATION)			10 FEET
MINIMUM TOWNHOUSE BUILDING SEPARATION (FOUNDATION TO FOUNDATION)			20 FEET
MINIMUM LOT COVERAGE			50%
MINIMUM OPEN SPACE REQUIRED			15% (9.12 AC)
OPEN SPACE PROVIDED			26.5% (16.11 AC)

- 1

20' STATE UNDISTURBED STREAM BUFFER (AS MEASURED FROM POINT OF INTERFERED VEGETATION)

2

10' CITY UNDISTURBED STREAM BUFFER (AS MEASURED FROM POINT OF INTERFERED VEGETATION)

3

10' CITY WATERSHED SETBACK (AS MEASURED FROM POINT OF INTERFERED VEGETATION)



- VICINITY/FEMA MAP

SCALE: 1" = 100'
- PLAN NOTES

1

BOUNDARY SURVEY INFORMATION TAKEN FROM BOUNDARY SURVEY FOR EDGE CITY PROPERTIES, INC. BY GUNN LAND SURVEYING DATED 05/09/2022.

2

THE APPLICANT PROPOSES THE REZONING OF THE SUBJECT PARCEL FOR THE DEVELOPMENT OF A SINGLE-FAMILY RESIDENTIAL SUBDIVISION FOLLOWING THE CITY OF FLORENCE BRANCH PLANNING COMMISSION'S EXISTING ZONING FOR THE SUBJECT PARCEL IS A.

3

SUBJECT PROPERTY IS LOCATED AT 1565 BARNESVILLE STREET N. END 1270, LAND LOTS 38 & 39, 8TH DISTRICT, FLORENCE BRANCH, HALL COUNTY, GEORGIA AND IS PRESENTLY UNDEVELOPED.

4

TOTAL SITE AREA: 60.79 ACRES (SEE SITE ANALYSIS).

5

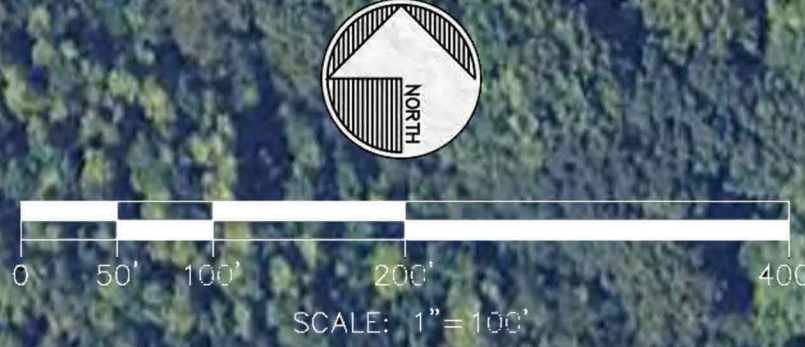
APPLICANT: EDGE CITY PROPERTIES, INC. 1565 BARNESVILLE STREET N. END 1270, FLORENCE BRANCH, GA 30505. CONTACT: MR. MARK DUE (404) 814-1800.

6

UPON EXAMINATION OF FEMA FLOOD INSURANCE RATE MAPS OF CITY OF FLORENCE BRANCH, GEORGIA, FROM 2013 AND 2018, IT WAS DETERMINED THAT NO PORTION OF THE SUBJECT PROPERTY LIES WITHIN A FLOOD HAZARD AREA AS SHOWN ON THE MAP.

7

ALL UNDEVELOPED BUFFERED STATE WATERS AND WETLANDS ON THE SUBJECT PROPERTY HAVE BEEN FIELD INSPECTED BY THE CONSULTING ENGINEER GROUP AS SHOWN ON THE PLAN (FIELD SURVEYED AS PART OF THE 2022 REFERENCED SURVEY).





REZONING APPLICATION

Date: May 10, 2022

Address of Request:

5183 Gainesville Street, Flowery Branch GA 30542

Tax Map # 08098 001019 Current Zoning: Agricultural (A)

Is this site located within the boundaries of the historic district? No

Currently a conforming use? Yes

Any conditions of zoning, CUP's, etc.? None known

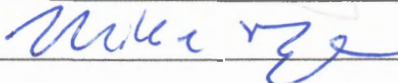
Applicant Information

Name: Edge City Properties, Inc. C/O Rochester & Associates

Address: 425 Oak Street, NW
Gainesville, GA 30501

E-mail address: bkdunckel@rochester-assoc.com

Phone number: 678-450-5175

Signature: 

Notary:



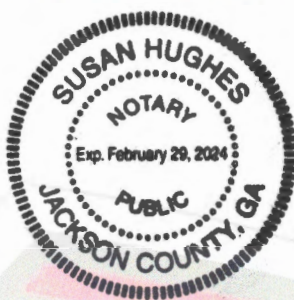


Property owner information (if different than the applicant)

Property owner (please print): Nedra Ann Jones

Signature of property owner: Nedra Ann Jones

Notary: Susan Hughes



Property Information

Tax Map Number: 08098 001019

Current Zoning: Agricultural (A) Total Acres: 60.787

Is this property located within the city-limits of Flowery Branch? Yes

Proposed City of Flowery Branch Zoning: R-3

Current Use: Grassed and wooded parcel with one single family home

Please review the Flowery Branch Code of Ordinances, Appendix C, "Zoning Ordinance", Article 34, for complete requirements.

Please provide the following at time of submittal in (one hard copy and digitally):

- Legal description
- Current survey of property



- Site plan shall meet the requirements of the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.5
- Development statistics per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.6
- Analysis requirements per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.7
- Detailed description of request
- Conflict of interest disclosure (attached)
- Disclosure of campaign contributions (attached)
- Names and addresses of adjoining property owners
- Reasons for requesting rezoning
- Signed statement authorizing City of Flowery Branch staff and/or City Council to inspect the subject property

Conflict of Interest Disclosure

Identify all members of the City Council of the City of Flowery Branch and Employees of the City of Flowery Branch Community Development Department who

Have a property interest in the real property affected by this request

None

Have a financial interest (direct ownership interest) of the total assets or capital stock of a business entity where such ownership interest is more than 10% in any business entity which has a property interest in the real property affected by this request

None

Have a member of the family (spouse, mother, father, brother, sister, son or daughter) having a property financial interest as herein defined, in the real property affected by this request

None



Disclosure of Campaign Contributions

List below the names of local government officials of the City of Flowery Branch to whom campaign contributions were made, within two (2) years immediately preceding the filing of this application, which campaign contributions total \$250.00 or more or to whom gifts were made having a total value of \$250.00 or more.

Elected Officials Name

Amount of Description of Gift

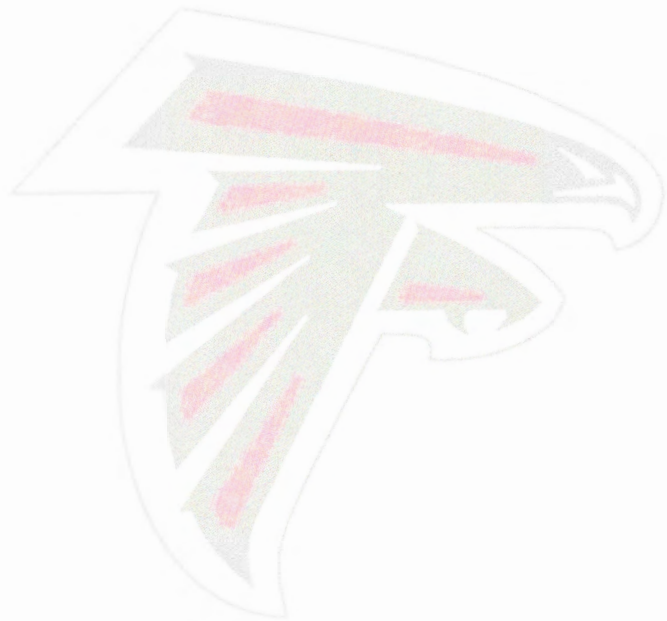
None

_____	_____
_____	_____

CITY STAFF ONLY

Application Received By: _____

Date: _____ Total Fee: _____





425 Oak Street
 Gainesville, GA 30501
 Phone: (770)-718-0600
 Fax: (770)-718-0551
www.rochester-assoc.com

May 10, 2022

Rich Atkinson, Director
 Planning & Community Development
 City of Flowery Branch
 5410 Pine Street
 Flowery Branch, GA 30542

**Re: LETTER OF INTENT FOR REZONING APPLICATION FOR 5183 GAINESVILLE STREET
 (Parcel 08098 001019)**

Dear Director Atkinson:

Rochester & Associates submits this Letter of Intent and attached Rezoning Application (the Application) on behalf of Edge City Properties, Inc. (the "Applicant") for the purpose of rezoning to the R-3, Residential Multi-Family District zoning classification +/- 60.787 acres of land (the "Property") situated approximately 1,000 feet from McEver Road on Gainesville Street. The acreage is split into two parcels with +/- 11.132 acres on the west side and 49.655 acres on the east side of Gainesville Street in the southwestern portion of Hall County in the City of Flowery Branch. The Property is a combination of wooded and pasture and is currently zoned Agriculture (A) with convenient access to the downtown area of Flowery Branch.

The Applicant proposes to develop the Property to contain a single-family residential community including a total of 347 detached and attached single-family homes at a size, quality and price commensurate with or exceeding existing homes in the surrounding area. The Property is adjacent to two PUD residential developments (containing detached and attached single family homes) and an M-I zoning to the north with a railroad track on the eastern boundary. To the south are agricultural zonings of unincorporated Hall County and the City of Flowery Branch.

The proposed homes will include a mixture of one and two-story detached and attached homes including two-car garages. The front façade of the proposed homes would be constructed of a mixture of brick, stone, and/or fiber-cement shake/siding (including board and batten). The proposed development would also contain a recreation/amenity area for the use of residents including a pool and cabana. The proposed development is in the Suburban Residential and Mixed Use-Neighborhood character areas of the City of Flowery Branch Comprehensive Plan

2041. The homes proposed would contain a minimum of 1,800 square feet for the one-story homes and a minimum of 2,000 square feet for the two-story homes. The townhomes will have a minimum of 1,900 square feet.

The proposed development would be a quality development that is compatible with development in the surrounding area. The proposed development will preserve important state waters which border the property to the west in a rapidly-growing area in the City of Flowery Branch. The Gainesville Street frontage will have sidewalks installed to further advance the Comprehensive Plan by increase the walkability of the area into the City's downtown area.

Further, surrounding development and existing uses would not face major negative impacts as a result of the proposed development in part because of the substantial buffering and setback requirement of the City's Zoning Resolution.

The Applicant and its representatives welcome the opportunity to meet with staff of the City of Flowery Branch to answer any questions or to address any concerns relating to the matters set forth in this letter or in the Rezoning Application filed herewith.

The Applicant respectfully request your approval of this Application.

Sincerely,



Brian Rochester

Rochester & Associates for the Applicant

Sec. 34.7. - Analysis Requirements.

- (a) Whether the proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property. The proposed rezoning will permit a use that is suitable in view of the use and development of adjacent and nearby properties. The proposed development is a single-family residential neighborhood that will conserve important natural areas.
- (b) Whether the proposal will adversely affect the existing use or usability of adjacent or nearby property. The proposed rezoning will not adversely affect the existing use or usability of any of the nearby properties. The proposed development is compatible with surrounding development.
- (c) Whether the property to be affected by the proposal can be used in accordance with the existing regulations and has a reasonable economic use as currently zoned. The current Agriculture zoning is not a reasonable economic use.
- (d) Whether the proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools. The proposed rezoning will not result in an excessive or burdensome use of the infrastructure. The subject property is located off Gainesville Street with access to utilities. Further, the relatively low development density will not overly burden the infrastructure system.
- (e) Whether the proposal is in conformity with the policy and intent of the comprehensive plan including but not limited to the character area map and future land use plan map. The proposed rezoning should be appropriate when comparing the two blended Future Land Use character areas of the Property. In addition, the M-I zoning and railroad track should allow a more intensive zoning. The installation of sidewalks along Gainesville Street will increase walkability to the City's downtown area which is a theme goal in the Comprehensive Plan.
- (f) Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposal. The proposed rezoning is in conformity with the policy and intent of the City's Comprehensive Plan. The Agricultural zoning is no longer appropriate, and the property is well served as a single-family residential use. The current zoning is not compliant with the City's Future Land Use Map.
- (g) Existing use(s) and zoning of the subject property and nearby properties. The existing use is a single-family home. The property is surrounded by an R-3 and PUD (single-family detached and townhomes) to the west and north, M-I to the north also and Agricultural to the south. The entire eastern boundary is a railroad track.
- (h) Existing value of the property under the existing zoning district classification, the extent to which the property value of the subject property is diminished by the existing zoning district, and the value of the property under the proposed zoning district; if such information is provided by the applicant or can be discerned. This consideration may include the length of time the property has been vacant or unused as currently zoned and efforts taken by the property owner(s) to use the property or sell the property under the existing zoning district classification. The current Agricultural zoning is not a reasonable economic use as defined by court precedent in the State of Georgia. There is not a reasonable demand for land used for an agricultural use in this area that does not require rezoning.
- (i) Whether a proposed zoning map amendment or conditional use approval will be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations. The proposed rezoning is appropriate with surrounding uses and could even be a less intensive use when compared to the M-I zoning to the north.
- (j) The possible creation of an isolated zoning district unrelated to adjacent and nearby districts. The proposed rezoning will not create an isolated zoning district and will complement the surrounding uses.

- (k) Possible effects of the change in zoning district map, or change in use, on the character of a zoning district. The proposed rezoning will not negatively impact the character area of the zoning district.
- (l) The possible impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality. The proposed rezoning use will not negatively impact the environment and will produce a quality residential use with careful consideration given to responsibly develop with no negative impact on the environment.
- (m) The relation that the proposed map amendment or conditional use bears to the purpose of the overall zoning scheme and the purposes of this Zoning Ordinance. The proposed rezoning is in full compliance with the overall zoning scheme and purposes of the Zoning Ordinance. This proposal will protect and appreciate the surrounding properties while increasing the quality of the City's housing supply.

City of Flowery Branch Rezoning Application
REQUEST FOR STATISTICAL INFORMATION
5183 Gainesville Street Rezoning
Application

1. Value of improvements at buildout:
 - Single Family Detached Homes 186 x \$400,000 = \$74,400,000
 - Single Family Attached Homes 149 x \$350,000 = \$52,150,000
 - Total Value of Development \$126,550,000
2. Property tax revenue at buildout: (based on 40% of Total Value is \$50,620,000)
 - Hall County - \$ 1,378,889 (millage rate of 27.24)
 - City of Flowery Branch - \$165,224 (millage rate of 3.264)
3. Schedule of construction:
 - Design/Permitting: 9/1/2022 to 12/31/2022
 - Land Development/Plat: 1/1/2023 to 12/31/2023
 - Home Construction and Sales 1/1/2024 to 12/31/2027
4. Anticipated total square footage per unit:
 - 1900 sf minimum
5. Total acreage to be developed:
 - 29.1 acres in total
6. The Single Family Tract will contain approximately 13.60 +/- acres private roads and utility easements.
7. The Single Family Tract will contain approximately 16.11 acres of open space/common area to be maintained by the HOA to be established.
8. The Single Family Tract will contain approximately TBD acres of buffer and watershed protection.
 - A) The impervious buffer is applicable to this tract.
 - B) No property lines may extend into the undisturbed stream buffer.
 - C) The developer intends to utilize private streets to conform to the City's development code for front entry homes. The developer will dedicate storm sewer easements to the City of Flowery Branch as appropriate.
9. Transportation alternatives:
 - The Single Family Tract will have sidewalks along the frontage along Gainesville Street to utilize walkability to the City's downtown are.

10. Amenities for Single Family tract total approximately 3.35 +/- acres and will include the following:
- Cabana
 - Pool
 - Pocket Park
 - Green Area
 - Park Area
11. A minimum of TBD are planned for the Single Family Tract with a maximum spacing of 150 feet.
12. The Single Family Tract will include approximately 22,2750 linear feet of sidewalk containing approximately 1,390 cubic yards of concrete.
13. Homes in the Single Family Tract will have access to high speed internet to the extent available from the service provider.
14. The Single Family Tract will contain areas for providing detention, water quality and stream protection.
15. A traffic study has been commissioned and is scheduled to be submitted to the City's staff in mid-June 2022.
16. There are no provisions for utilization and storage of reuse water in this plan.
17. The Single Family Tract, as proposed, will generate approximately 134,000 (400 gpd x 335 units) gallons per day of wastewater flow.
18. The maximum daily water consumption is approximately 134,000 gallons per day. Low flow fixtures are required by the development.
19. A preliminary design has been completed in order to evaluate the proposed density. The site does not contain slopes 24% or greater.
20. Public safety requirements related to life safety codes have been considered in the concept design.
21. The Hall County school system will be provided density and build out projections for the entirety of the community.
22. Copies of master covenants and guidelines will be filed and recorded prior to recordation of the initial final plat.

**Adjacent Property Owners to 5183 Gainesville Street: Source Hall County qPublic.net and City
of Flowery Branch Official Zoning Map dated 2016**

W J COFER

COFER MONTEZ B
5206 GAINESVILLE STREET
FLOWERY BRANCH, GA 30542
Parcel Number 08112 027036A
Zoning A

REBECCA TRACY BAGWELL

5339 COBBLESTONE
GAINESVILLE, GA 30504
Parcel Number 08112 027039
Zoning A

REBECCA TRACY BAGWELL

5339 COBBLESTONE
GAINESVILLE, GA 30504
Parcel Number 08111 003042
Zoning AR-III

CENTURY COMMUNITIES OF GEORGIA LLC

3091 GOVERNORS LAKE DR
STE 200
NORCROSS, GA 30071
Zoning: R-3 and HB

PARK HAVEN COMMUNITY ASSOCIATION, INC.

1585 OLD NORCROSS ROAD, SUITE 101
LAWRENCEVILLE, GA 30046
Parcel Number 08099 000021
Zoning PUD

RECONSERVE INC
P O BOX 2211
SANTA MONICA, CA 90407
Parcel Number 08098 001017
Zoning M-I

MILDRED BLACK BUTLER
106 ROBERTSON CT., N.W.
DAWSONVILLE, GA 30534
Parcel Number 08112 012001
Zoning AR-III

Legal Description

Gainesville Street 5183 Tract 1

All that tract or parcel of land lying and being in Georgia Militia District 1270, Land Lots 98 and 99 of the 8th District, City of Flowery Branch, Hall County, Georgia, and being more particularly described as follows:

TO FIND THE TRUE POINT OF BEGINNING, COMMENCE at a 1/2" rebar found at the intersection of the westerly right of way of Gainesville Street (right of way varies) and the common line of Land Lots 98 and 112, said point being the **TRUE POINT OF BEGINNING**.

FROM THE TRUE POINT OF BEGINNING AS THUS ESTABLISHED;

thence leaving said westerly right of way and along the common line of Land Lots 98 and 112, and also along the common line of Land Lots 99 and 111 N30°17'07"W for a distance of 870.88 feet, more or less to a point at the centerline of a creek/ditch; thence along the centerline of said creek/ditch, following the meanderings thereof, for a distance of 735.7 feet, more or less, to a point, said creek/ditch following a traverse line as follows:

N22°29'05"E for a distance of 26.67 feet to a point; N62°08'14"E for a distance of 34.90 feet to a point; N00°01'33"E for a distance of 28.85 feet to a point; N51°21'55"E for a distance of 51.17 feet to a point; N83°01'11"E for a distance of 40.74 feet to a point; N81°18'05"E for a distance of 37.00 feet to a point; S88°07'16"E for a distance of 27.12 feet to a point; N21°54'02"W for a distance of 19.71 feet to a point; N47°35'13"E for a distance of 38.32 feet to a point; S79°06'32"E for a distance of 26.16 feet to a point; N58°53'31"E for a distance of 18.21 feet to a point; N08°16'31"E for a distance of 8.91 feet to a point; N81°16'21"E for a distance of 51.25 feet to a point; N15°41'38"E for a distance of 37.58 feet to a point; N53°25'42"E for a distance of 14.18 feet to a point; N09°24'30"E for a distance of 23.47 feet to a point; N64°44'06"E for a distance of 13.99 feet to a point; N07°53'35"E for a distance of 27.01 feet to a t-post found; N13°33'18"E for a distance of 67.65 feet to a point; N39°37'54"E for a distance of 40.14 feet to a point; N14°08'48"W for a distance of 16.55 feet to a point; N44°51'11"E for a distance of 52.49 feet to a point; N81°27'23"E for a distance of 20.59 feet to a t-post found; N47°28'16"E for a distance of 46.19 feet to a t-post found; N35°49'48"E for a distance of 49.65 feet to a t-post found; N39°29'16"E for a distance of 92.83 feet to a t-post found; N45°12'07"E for a distance of 50.19 feet to a 1/2" rebar found at the westerly right of way of Gainesville Street (right of way varies); thence along said westerly right of way the following courses and distances:

128.94 feet along the arc of a curve to the right, said curve having a radius of 534.75 feet and being subtended by a chord of S29°45'25"E, 128.63 feet to a point; 159.20 feet along the arc of a curve to the right, said curve having a radius of 995.88 feet and being subtended by a chord of S18°16'10"E, 159.03 feet to a point; 177.61 feet along the arc of a curve to the right, said curve having a radius of 730.78 feet and being subtended by a chord of S06°43'39"E, 177.17 feet to a point; 53.81 feet along the arc of a curve to the right, said curve having a radius of 335.63 feet and being subtended by a chord of S04°49'42"W, 53.76 feet to a point; 151.00 feet along the arc of a curve to the right, said curve having a radius of 911.60 feet and being subtended by a chord of S14°10'01"W, 150.83 feet to a point; S18°54'44"W for a distance of 763.39 feet to a 1/2" rebar found, said point being the **TRUE POINT OF BEGINNING**.

Said tract or parcel of land contains 11.132 acres, more or less.

TOGETHER WITH:

Gainesville Street 5183 Tract 2

All that tract or parcel of land lying and being in Georgia Militia District 1270, Land Lots 98 and 99 of the 8th District, City of Flowery Branch, Hall County, Georgia, and being more particularly described as follows:

TO FIND THE TRUE POINT OF BEGINNING, COMMENCE at a 6" metal disk found at the intersection of the easterly right of way of Gainesville Street (right of way varies) and the common line of Land Lots 98 and 112, said point being the **TRUE POINT OF BEGINNING**.

FROM THE TRUE POINT OF BEGINNING AS THUS ESTABLISHED;

thence leaving said Land Lot Line and along said easterly right of way the following courses and distances: N18°54'44"E for a distance of 813.14 feet to a point; 34.07 feet along the arc of a curve to the left, said curve having a radius of 770.17 feet and being subtended by a chord of N17°38'41"E, 34.07 feet to a 1/2" rebar found; thence leaving said easterly right of way N60°06'32"E for a distance of 796.61 feet to a 6" metal disk found; thence S55°19'29"E for a distance of 1018.24 feet to a 6" metal disk found at the westerly right of way of Southern Railroad (200' right of way); thence along said westerly right of way S34°46'25"W for a distance of 2057.99 feet to a 6" metal disk found at the common line of Land Lots 98 and 112; thence leaving said westerly right of way and along said Land Lot Line N30°23'29"W for a distance of 1241.67 feet to a 6" metal disk found, said point being the **TRUE POINT OF BEGINNING**.

Said tract or parcel of land contains 49.655 acres.

Tract 1 area and Tract 2 area totals 60.787 Acres

JUSTIFICATION FOR REZONING APPLICATION OF
EDGE CITY PROPERTIES, INC.

The portions of the Zoning Resolution of the City of Flowery Branch (the “ZR”) which classify or may classify the property (the 'Property') which is the subject of the rezoning application submitted herewith (the “Application”) into any less intensive zoning classification other than as requested by the Applicant, or that prohibit the development of the Property as set forth in the Application, are or would be unconstitutional in that they would destroy the Applicant's property rights without first paying fair, adequate and just compensation for such rights, in violation of Article I, Section I, Paragraph II of the Constitution of the State of Georgia of 1983, and the Due Process Clause of the Fourteenth Amendment to the Constitution of the United States.

The application of the ZR as applied to the subject Property, which restricts its use to the present zoning classification is unconstitutional, illegal, null and void, constituting a taking of the Applicant's and the Owner's property in violation of the Just Compensation Clause of the Fifth Amendment and the Due Process Clause of the Fourteenth Amendment to the Constitution of the United States, Article I, Section I, Paragraph I, and Article I. Section I, Paragraph II of the Constitution of the State of Georgia of 1983, and the Equal Protection Clause of the Fourteenth Amendment to the Constitution of the United States denying the Applicant an economically viable use of its land while not substantially advancing legitimate state interests.

The Property is presently suitable for development under the R-3 zoning classification as requested by the Applicant and is not economically suitable for development under the present Agricultural zoning classification of the City of Flowery Branch. A denial of the Application would constitute an arbitrary and capricious act by the Mayor and City Council members of the City of Flowery Branch without any rational basis therefore, constituting an abuse of discretion in violation of Article I, Section I, Paragraph I and Article I, Section I, Paragraph II of the Constitution of the State of Georgia of 1983, and the Due Process Clause of the Fourteenth Amendment to the Constitution of the United States.

A refusal by the City of Flowery Branch Mayor and City Council Members to rezone the Property to the R-3 classification as set forth in the Application with such conditions as agreed to by the Applicant, so as to permit the only feasible economic use of the Property, would be unconstitutional and discriminate in an arbitrary, capricious and unreasonable manner between the Applicant and owners of similarly situated property in violation of Article I, Section I, Paragraph II of the Constitution of the State of Georgia of 1983 and the Equal Protection Clause of the Fourteenth Amendment to the Constitution of the United States. Any rezoning of the subject Property to the R-3 classification subject to conditions which are different from the conditions by which the Applicant may amend its application, to the extent such different conditions would have the effect of further restricting the Applicant's and the Owner's utilization of the subject Property, would also constitute an arbitrary, capricious and discriminatory act in zoning the Property to an unconstitutional classification and would likewise violate each of the provisions of the State and Federal Constitutions set forth hereinabove.

Likewise, a refusal by the City of Flowery Branch's Mayor and City Council Members to permit the Applicant to withdraw the Application without prejudice would be an arbitrary and capricious act by the City of Flowery Branch's Mayor and City Council Members without any rational basis therefore, constituting an abuse of discretion in violation of Article I, Section 1, Paragraph I and Article I, Section I, Paragraph II of the Constitution of the State of Georgia of 1983, and the Due Process Clause of the Fourteenth Amendment to the Constitution of the United States.

Accordingly, the Applicant respectfully requests that the rezoning application submitted by the Applicant relative to the Property be granted and that the Property be rezoned to the zoning classification as shown on the respective application.

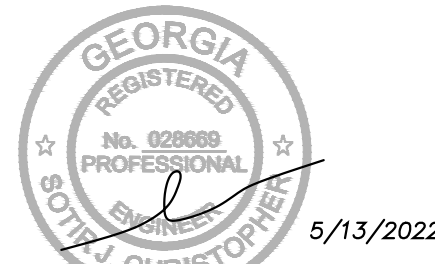
This 13 day of May 2022

Respectfully submitted,

EDGE CITY PROPERTIES, INC., As Applicant



Michael K. Dye
President



GSWCC LEVEL II CERTIFIED
DESIGN PROFESSIONAL #05744
(EXP. 02.17.2024)

12460 CRABAPPLE ROAD, SUITE 202-612
ALPHARETTA, GA 30004
PHONE 770.331.7303
schristopher@christopherplanning.com

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ZONING PLANS
FOR:

5183
GAINESVILLE
STREET

GMD 1270
LAND LOT 98 & 99
8TH DISTRICT
FLOWERY BRANCH
HALL COUNTY, GEORGIA

FOR:



EDGE CITY
PROPERTIES

EDGE CITY PROPERTIES, INC.
4280 DOVE POINT
DULUTH, GA 30096

CONTACT: MR. MIKE DYE
770.814.4500

REVISIONS

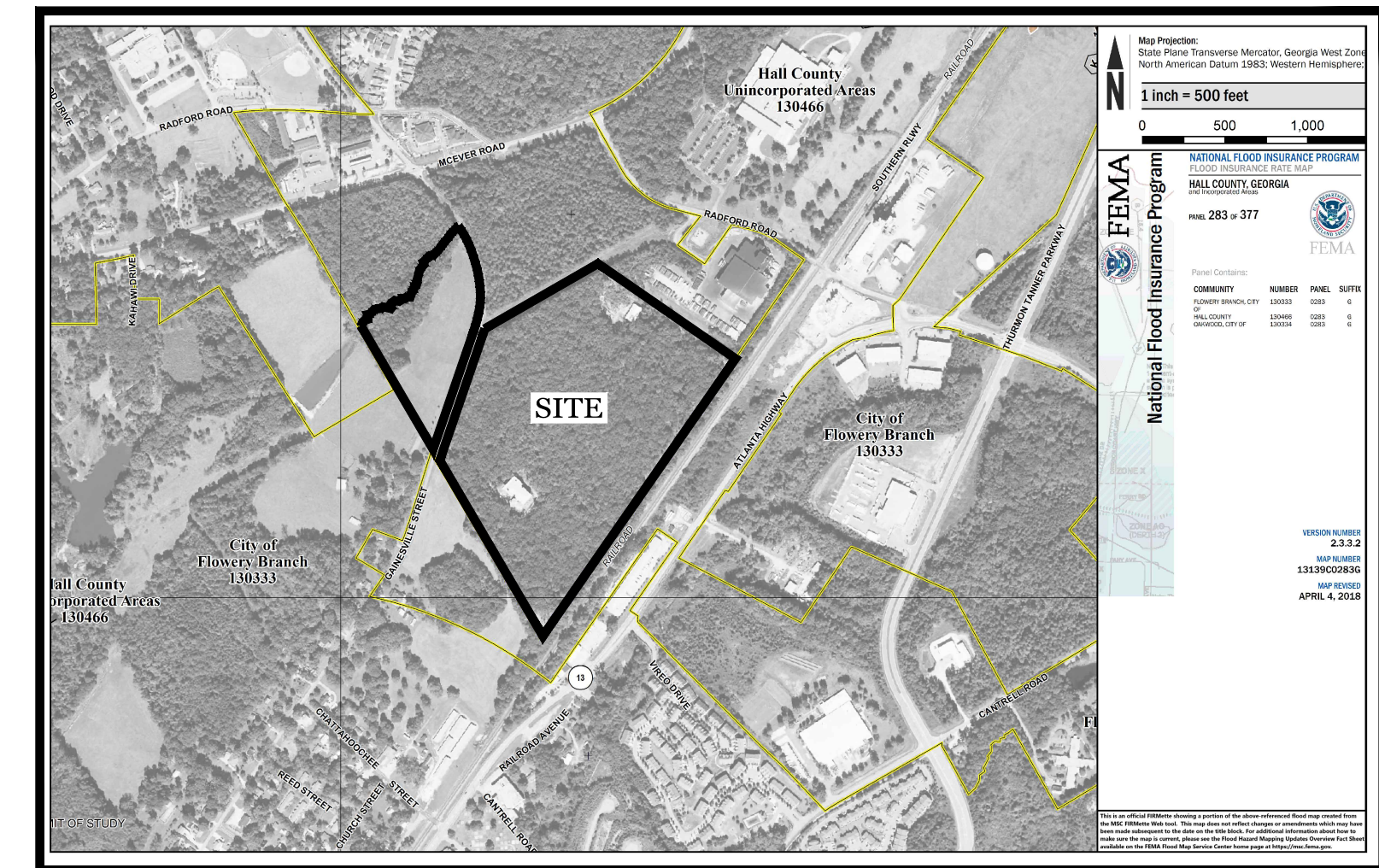
DATE:
MAY 13, 2022

CP&E DRAWING NO:
202210821.dwg

ZONING
SITE PLAN

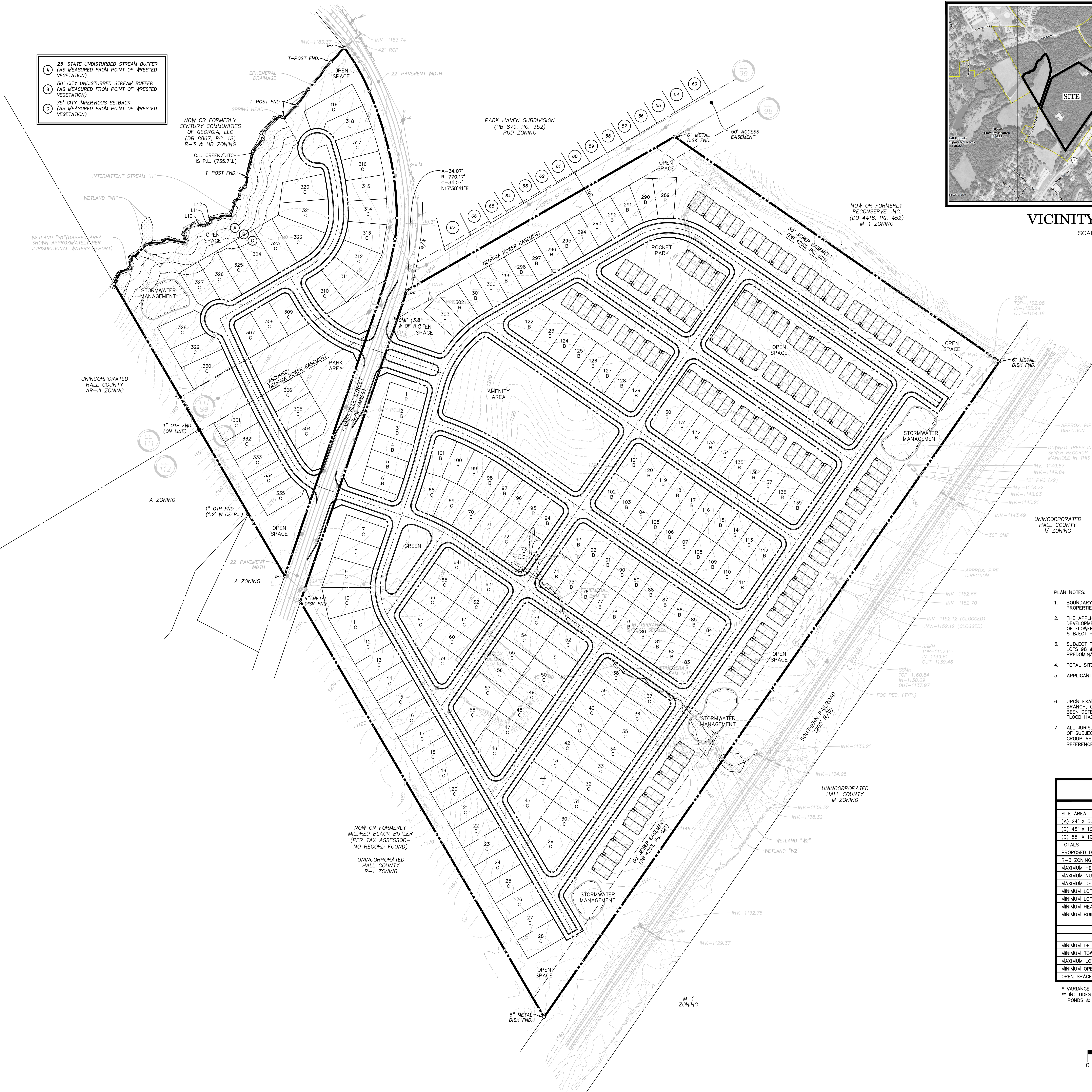
SHEET NO.

Z.1



VICINITY/FEMA MAP

SCALE 1"=1,000'



TRAFFIC IMPACT STUDY FOR

GAINESVILLE STREET RESIDENTIAL DEVELOPMENT

DATE:

May 27, 2022

LOCATION:

Flowery Branch, Hall County, Georgia

PREPARED FOR:

Edge City Properties, Inc.

PREPARED BY:

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Executive Summary

A new residential development is proposed for construction along Gainesville Street in the City of Flowery Branch, Hall County, Georgia. The proposed development will consist of 186 single family homes and 149 townhomes. The development will utilize four (4) new full-access driveways along Gainesville Street with driveways 1 and 3 being opposite each other and driveways 2 and 4 being opposite each other. The development has a projected build-out date of 2025.

When complete, the development is expected to generate a total of 2,870 new daily trips, 203 trips during the AM peak hour (56 entering and 17 exiting), and 263 during the PM peak hour (160 entering and 103 exiting).

Overall traffic operations at the study intersections are satisfactory in the existing conditions. Traffic operations are expected to worsen slightly as evidenced in the No-Build conditions due to the anticipated growth in the study area.

The addition of project traffic is expected to have minimal impact on the LOS and delays at the study intersections with each approach expecting to operate with acceptable levels of service. The proposed driveways are expected to have minimal impact on traffic operations along Gainesville Street.

The southeast driveway (site driveway 1) warrants a right-turn deceleration lane. The northeast driveway (site driveway 2) warrants both a right-turn deceleration lane and a left-turn lane. Turn lanes are not warranted for the driveways on the west side of Gainesville Street (site driveways 3 & 4).

Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.

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A. Introduction

A new residential development is proposed for construction along Gainesville Street in the City of Flowery Branch, Hall County, Georgia. The proposed development will consist of 186 single family homes and 149 townhomes. The development will utilize four (4) new full-access driveways along Gainesville Street with driveways 1 and 3 being opposite each other and driveways 2 and 4 being opposite each other.

The traffic analyses in this report are for a single phase of construction. The purpose of this report is to identify the traffic expected to be generated by new vehicular trips when the development is completed. This study includes analysis of the Existing, No-Build, and Build conditions at the following intersections for the year 2025:

1. Gainesville Street & Lights Ferry Road
2. Gainesville Street & Spring Street
3. McEver Road and Gainesville Street / GC Crow Road
4. Gainesville Street & Site Driveway 1 / Site Driveway 3
5. Gainesville Street & Site Driveway 2 / Site Driveway 4

The report summarizes the analysis of existing, background and projected traffic at the study locations, analysis of traffic impacts including Levels of Service (LOS) and conclusions and recommendations from the analysis.

Figure 1 depicts the study area (vicinity map) in Hall County, Georgia. The study intersections listed above are depicted in Figure 2. A copy of the development concept plan is included in Appendix A.

Figure 1: Vicinity Map

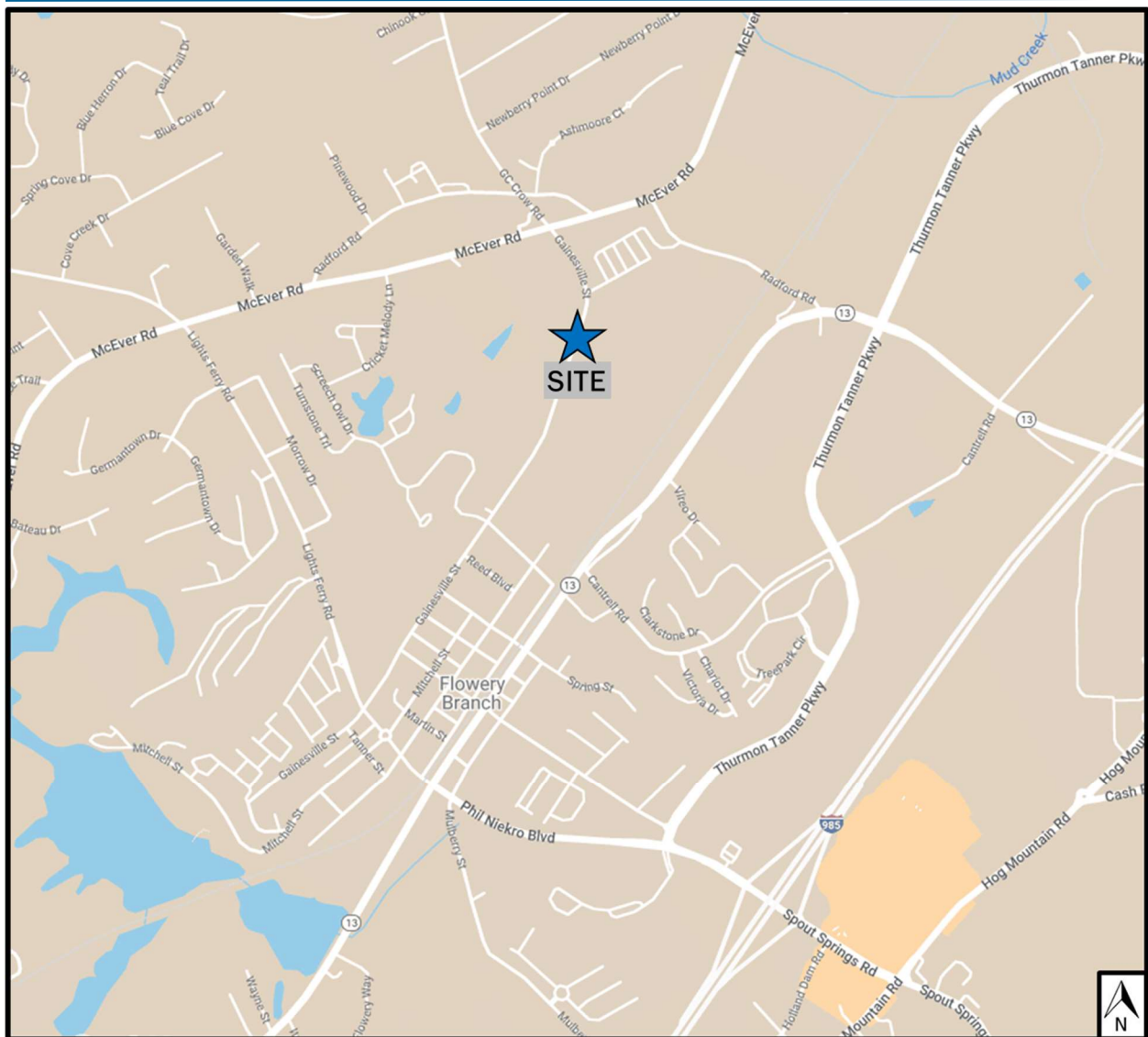
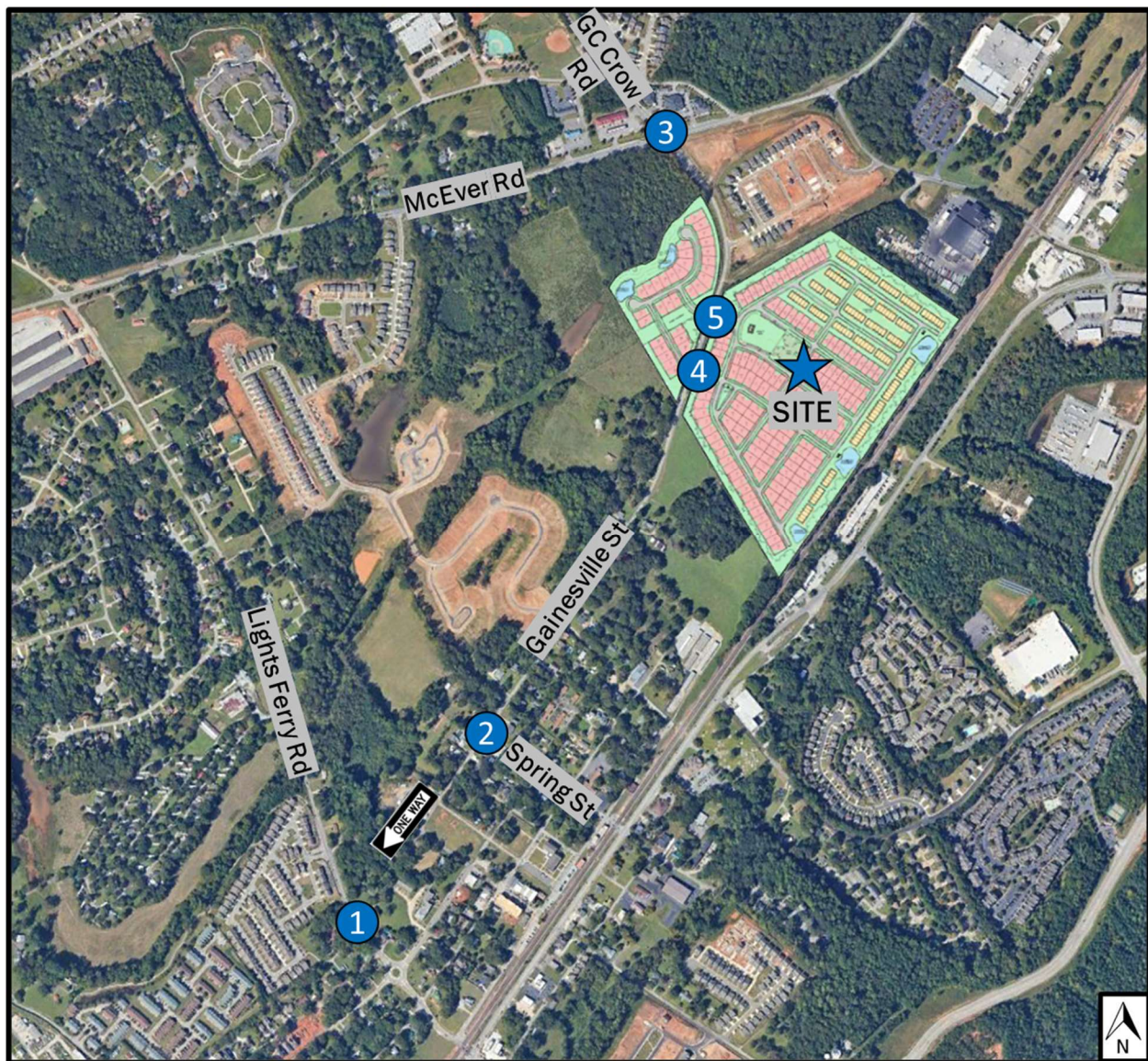


Figure 2: Site Location Aerial



1. Gainesville Street & Lights Ferry Road
2. Gainesville Street & Spring Street
3. McEver Road and Gainesville Street / GC Crow Road
4. Gainesville Street & Site Driveway 1 / Site Driveway 3
5. Gainesville Street & Site Driveway 2 / Site Driveway 4

B. Existing Conditions

B.1. Transportation Facilities

McEver Road is a two-lane undivided roadway with an east/west orientation, for the purposes of this study, that runs east towards Oakwood, Georgia and south towards Gwinnett County, Georgia where it becomes Peachtree Industrial Boulevard. McEver Road has a posted speed limit of 55 miles per hour and land uses include residential and commercial in the study area.

Gainesville Street is a two-lane undivided roadway with a north/south orientation that runs between McEver Road and Lights Ferry Road. Gainesville Street has a posted speed limit of 35 miles per hour and land uses are primarily residential along its length. The section of Gainesville Street between Lights Ferry Road and Main Street is restricted to southbound traffic only.

Lights Ferry Road is a two-lane undivided roadway with an east/west orientation for the purposes of this study. The road runs west towards Lake Lanier and east towards SR 13. It becomes Snelling Avenue to the east after a roundabout and Phil Niekro Boulevard after its intersection with SR 13. Lights Ferry Road has a posted speed limit of 35 miles per hour and land uses are residential along its length.

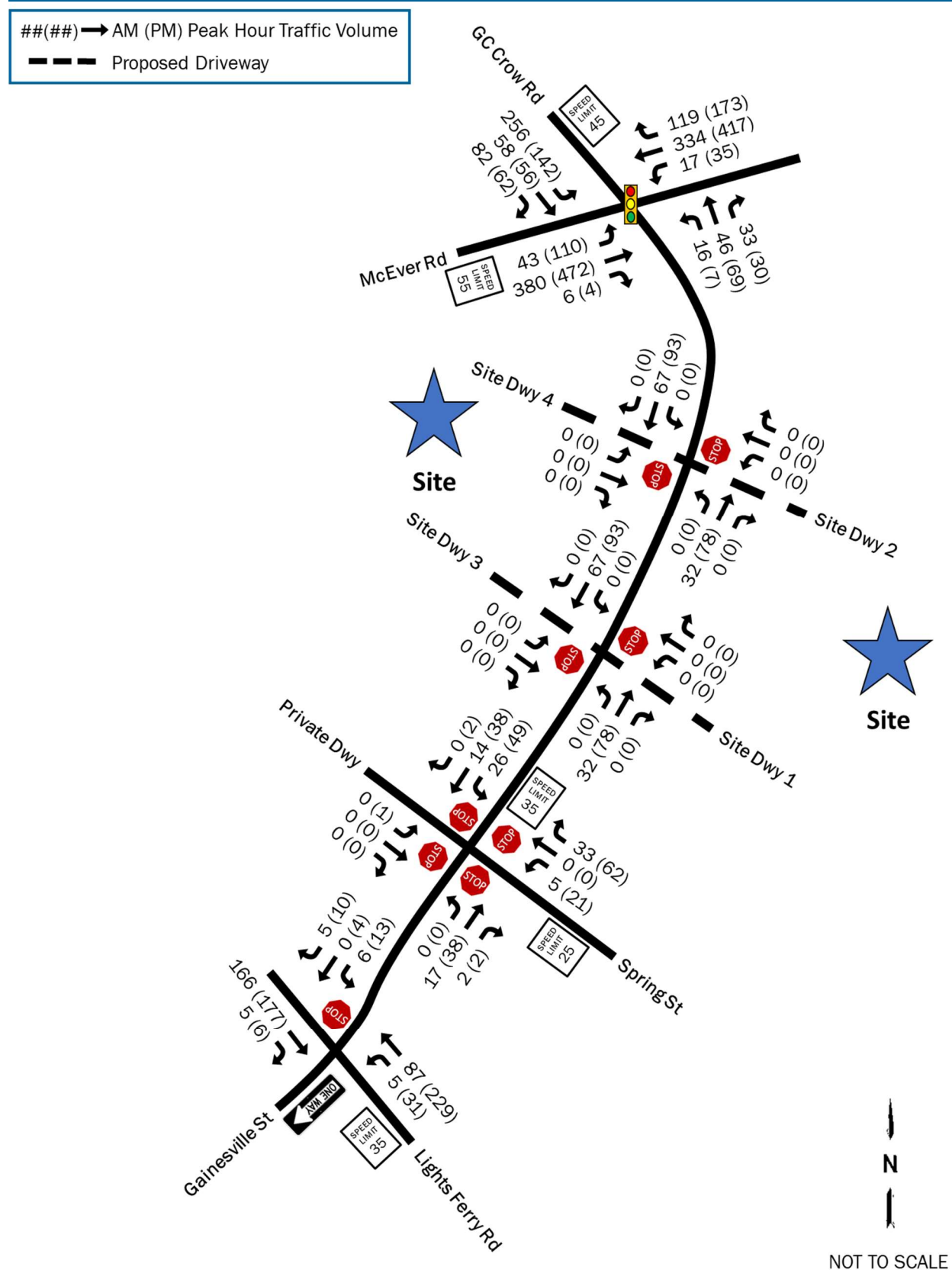
Spring Street is a two-lane undivided roadway with an east/west orientation, for the purpose of this study, that runs between Gainesville Street and dead ends just east of SR 13. Spring Street has a posted speed limit of 25 miles per hour and land uses are residential and institutional along its length.

GC Crow Road is a two-lane undivided roadway with a north/south orientation for the purpose of this study. The road runs between McEver Road to the south and Lake Lanier to the north. GC Crow Road has a posted speed limit of 45 miles per hour and land uses are primarily residential along its length.

B.2. Traffic Counts

Weekday AM and PM peak period turning movement counts were collected at the study intersections on Tuesday, May 17, 2022. Average daily traffic counts were also collected on Gainesville Street near the proposed site driveways. The average daily weekday traffic along Gainesville Street is approximately 2,100 vehicles. Counts were collected while schools were in session and are included in Appendix B. The counts collected in 2022 are shown in Figure 3 (2022 Existing Traffic Volumes).

Figure 3: 2022 Existing Traffic Volumes



Traffic Impact Study for
Gainesville Street Residential Development, City of Flowery Branch, Hall County, Georgia

C. Future Conditions

C.1. Background Growth

The growth rate in the study area is based upon an analysis of historical traffic counts collected by the Georgia Department of Transportation (GDOT). The project is expected to be built-out in 2025. To account for ambient growth and other developments in the area, the existing traffic counts for this study were grown by a conservative rate of 4.4% per year for three years. The expected volumes are depicted in Figure 4, 2025 No-Build Volumes. The growth rate development worksheet is included in Appendix B.

C.2. Project Trip Generation

Table 1 summarizes the project trip generation calculated using the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition, 2021. The development consists of 186 single family homes and 149 townhomes.

Table 1: Trip Generation

LAND USE	PERIOD	TOTAL	IN	OUT
Single-Family Detached Housing, LUC 210 (186 Dwelling Units)	Daily	1,786	893	893
	AM Peak Hour	131	34	97
	PM Peak Hour	178	112	66
Single-Family Attached Housing, LUC 215 (149 Dwelling Units)	Daily	1,084	542	542
	AM Peak Hour	72	22	50
	PM Peak Hour	85	48	37
Total Trips Gainesville St Residential Development	Daily	2,870	1,435	1,435
	AM Peak Hour	203	56	147
	PM Peak Hour	263	160	103

The development will generate a total of 203 trips (56 entering and 147 exiting) during the AM peak hour, and a total of 263 trips (160 entering and 103 exiting) during the PM peak hour.

C.3. Trip Distribution and Assignment

The assignment and directional distribution of new project trips was based on the traffic patterns evidenced in the overall study area. From the driveway along McEver Road (Site Driveway 1) It is expected that approximately 25% of the total trips will travel to/from the northwest along McEver Road, approximately 20% will travel to/from the northeast along McEver Road, approximately 40% will travel to the south along Lights Ferry Road, and approximately 15% will travel to/from the south along Spring Street. The 40% of the total trips traveling to the south along Lights Ferry Road is expected to return from Spring Street. The separated trip distribution is shown in Figures 5 and 7 for the Single-Family Homes and Townhomes, respectively. The separated trips generated from the development utilizing the trip distribution is depicted in Figures 6 and 8. The total project trips are depicted in Figure 9, and the No-Build plus project trips (Build Volumes) are depicted in Figure 10.

Figure 4: 2025 No-Build Traffic Volumes

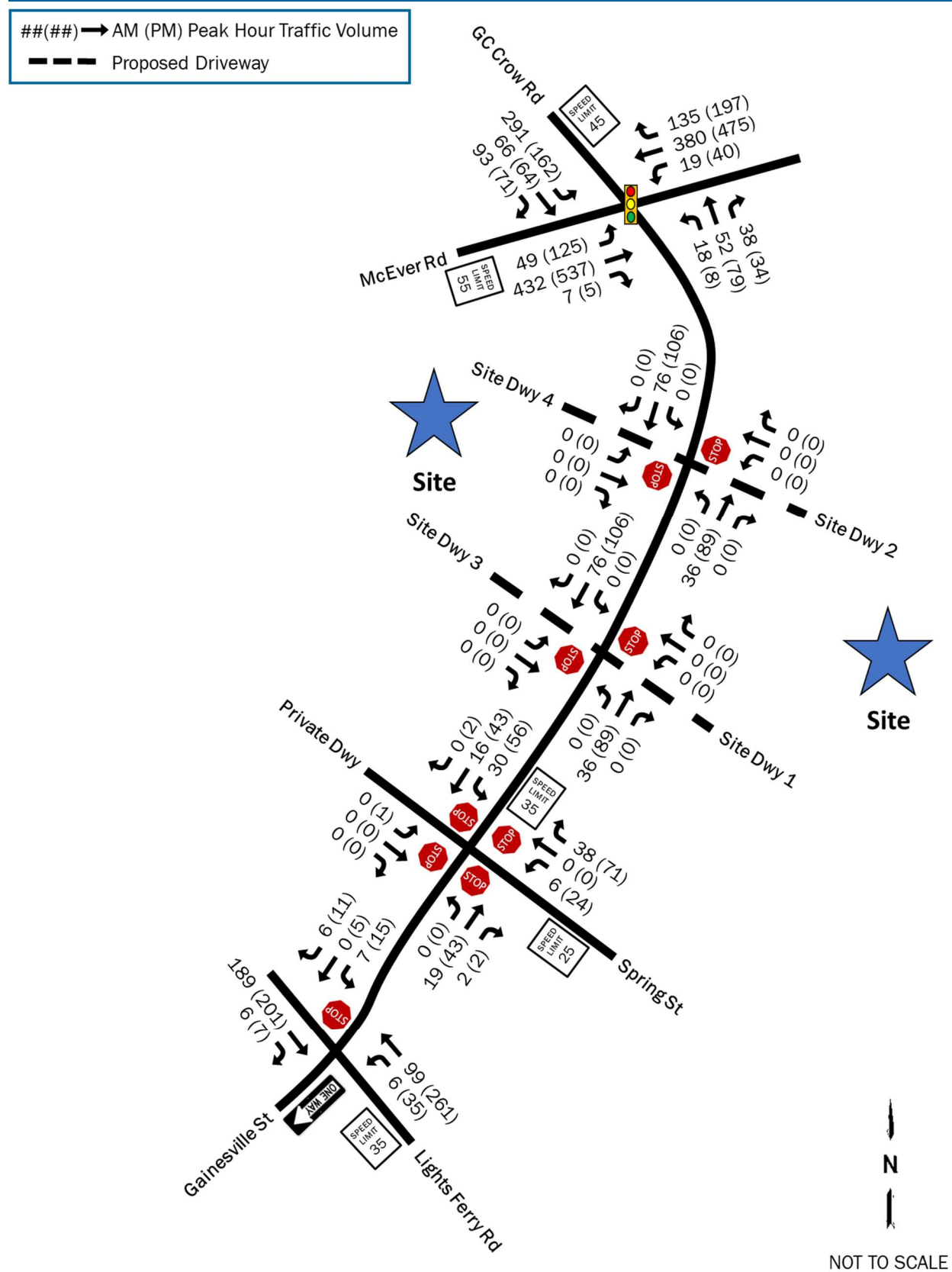


Figure 5: Single-Family Homes Trip Distribution

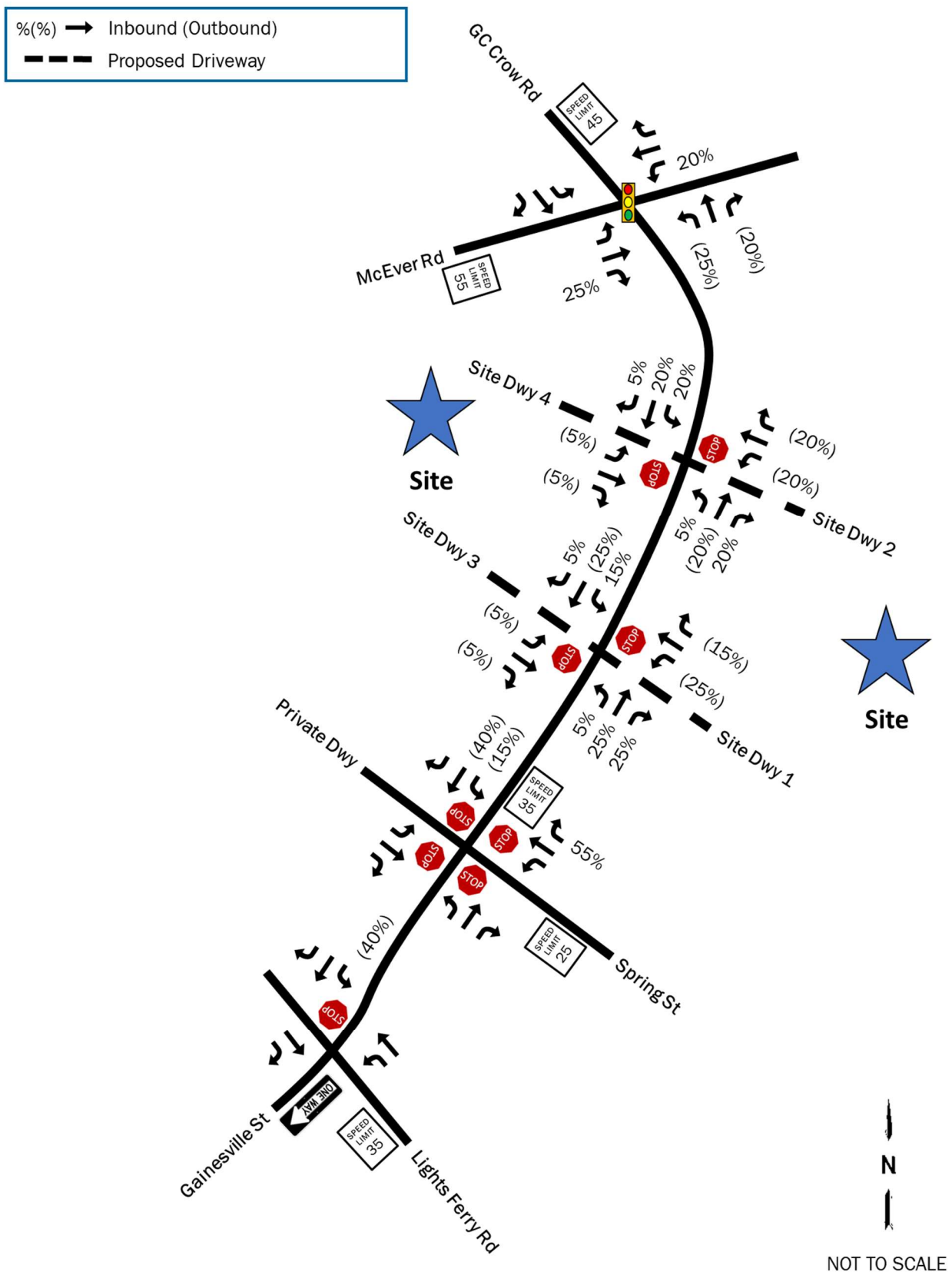


Figure 6: Single-Family Homes Development Trips

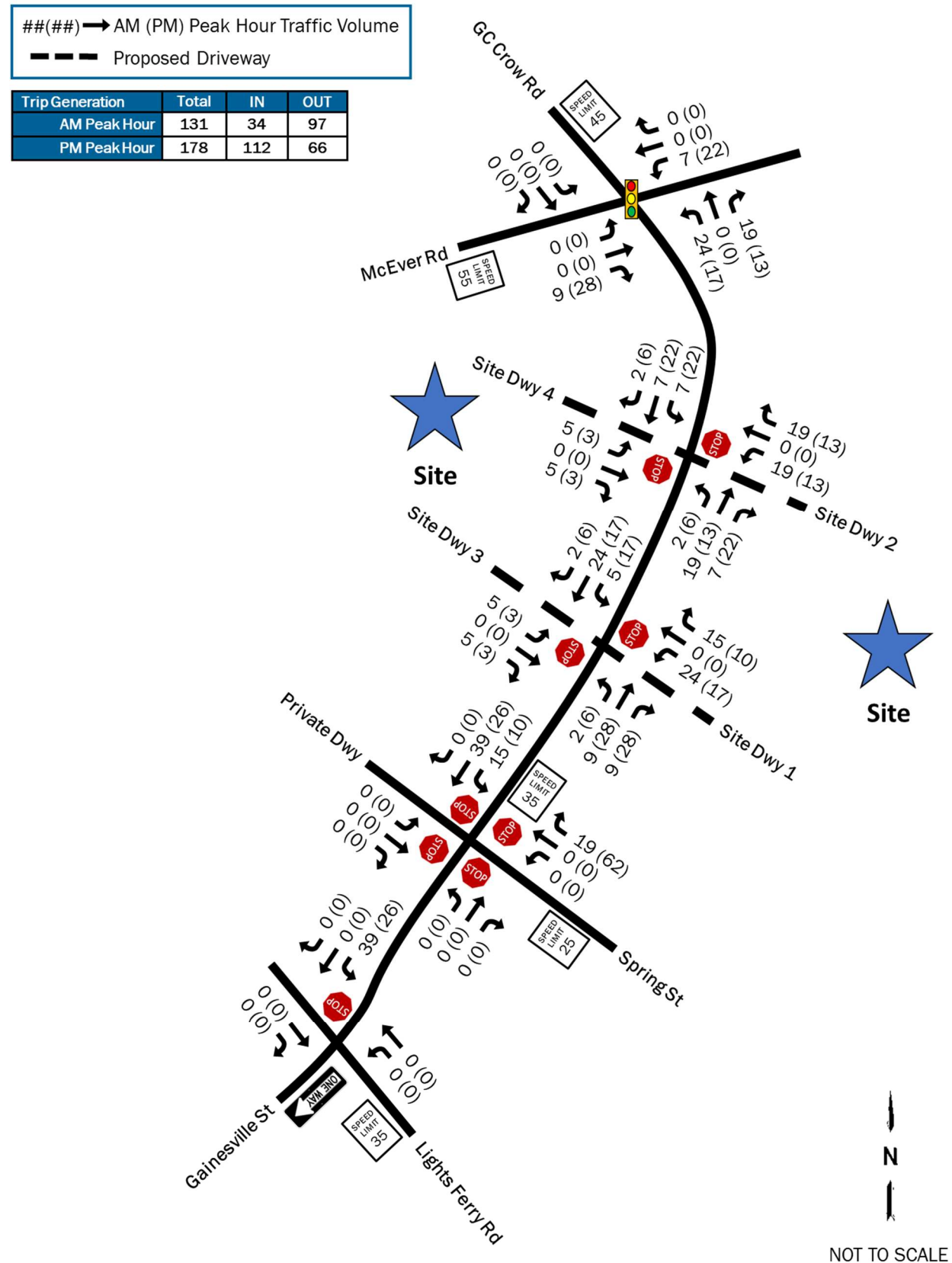


Figure 7: Townhomes Trip Distribution

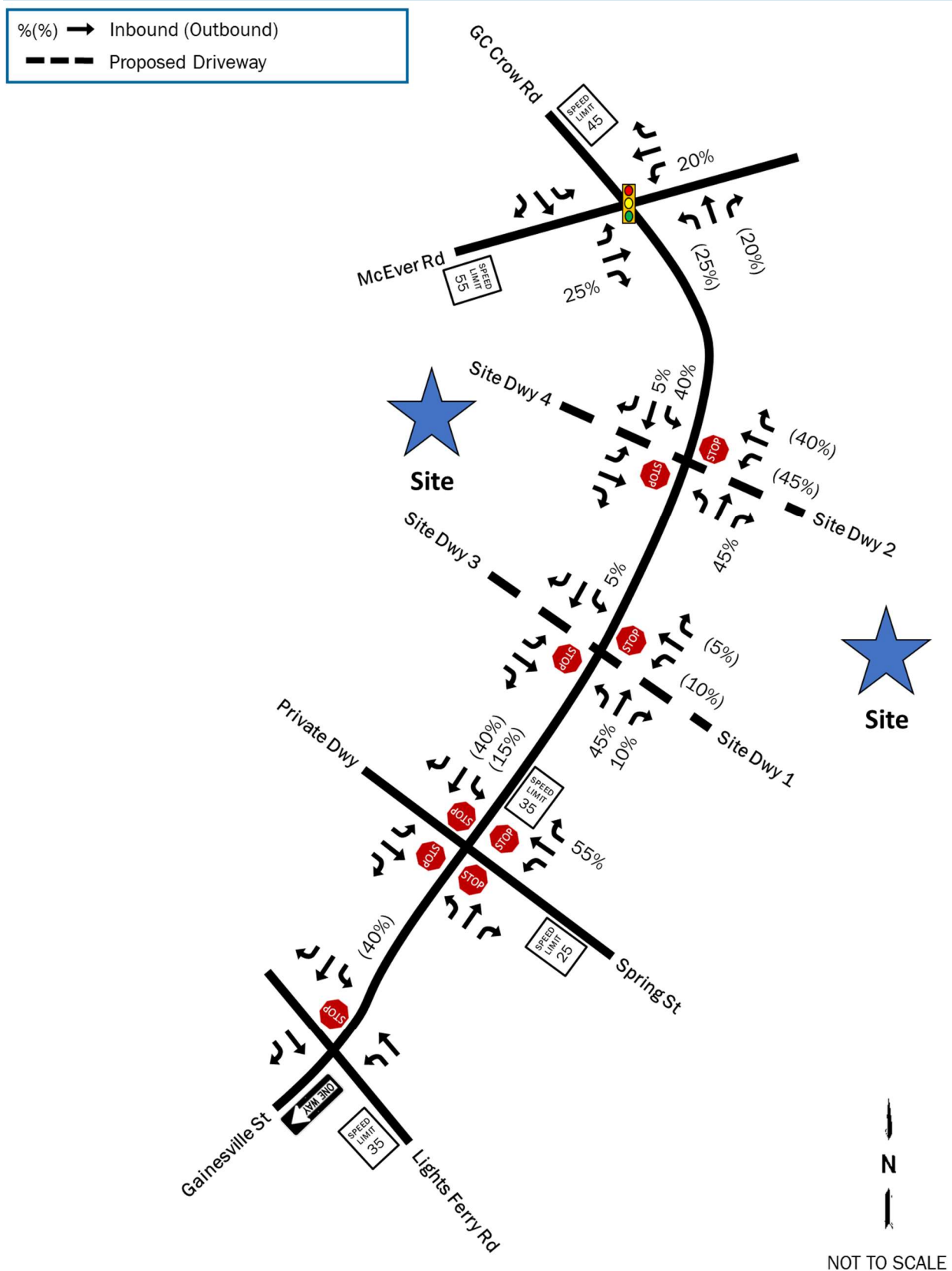


Figure 8: Townhomes Development Trips

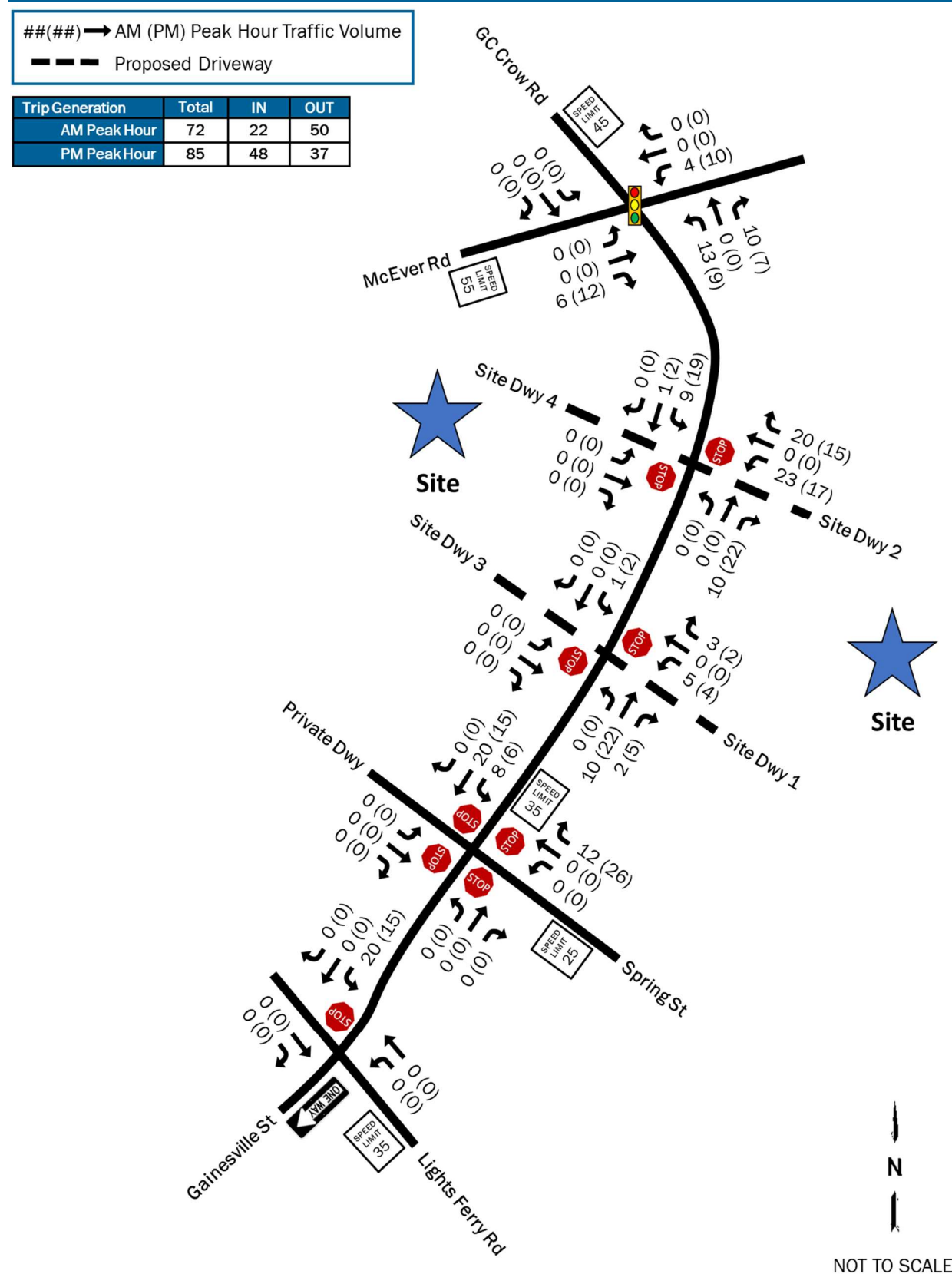


Figure 9: Total Project Development Trips

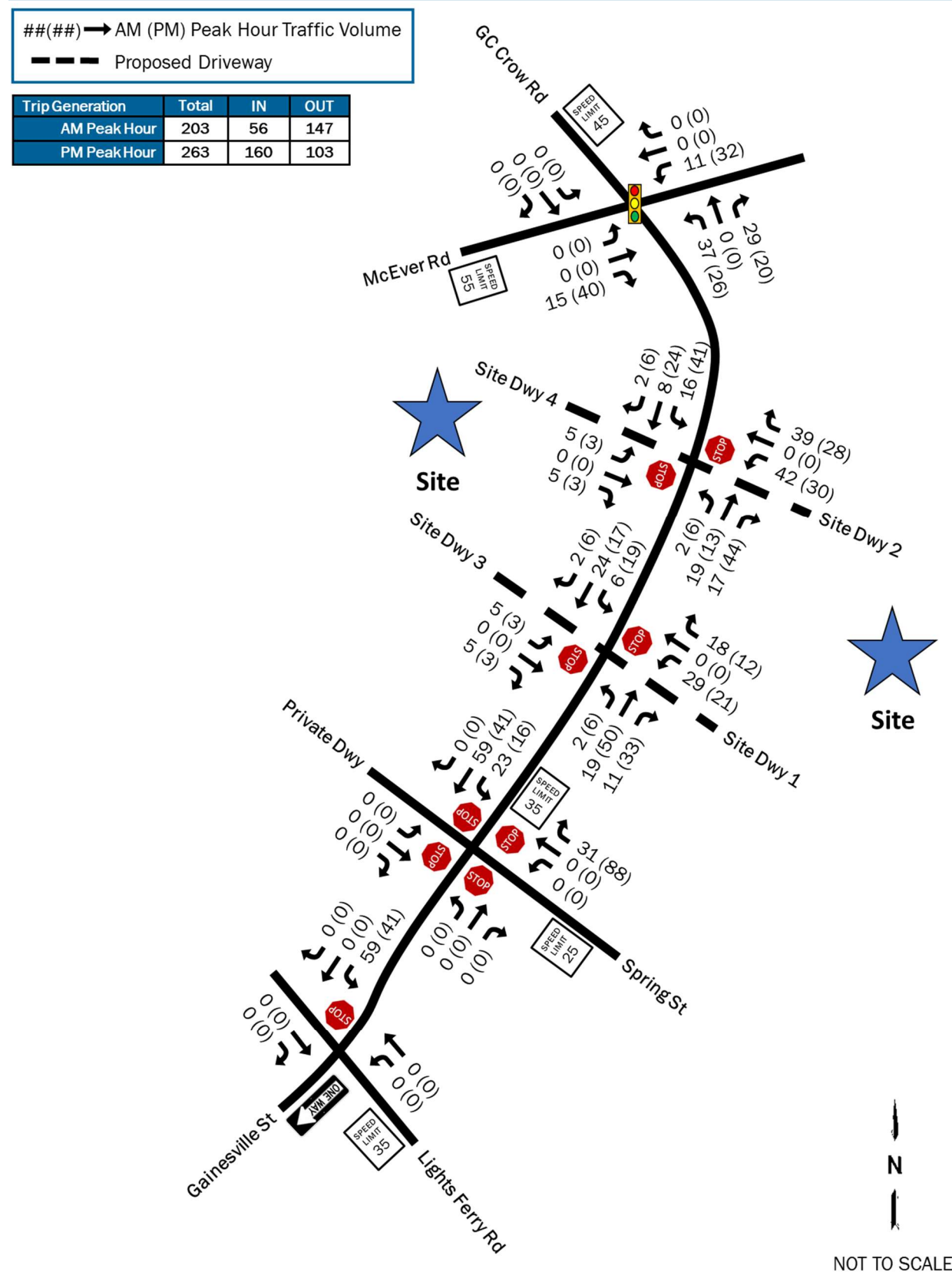
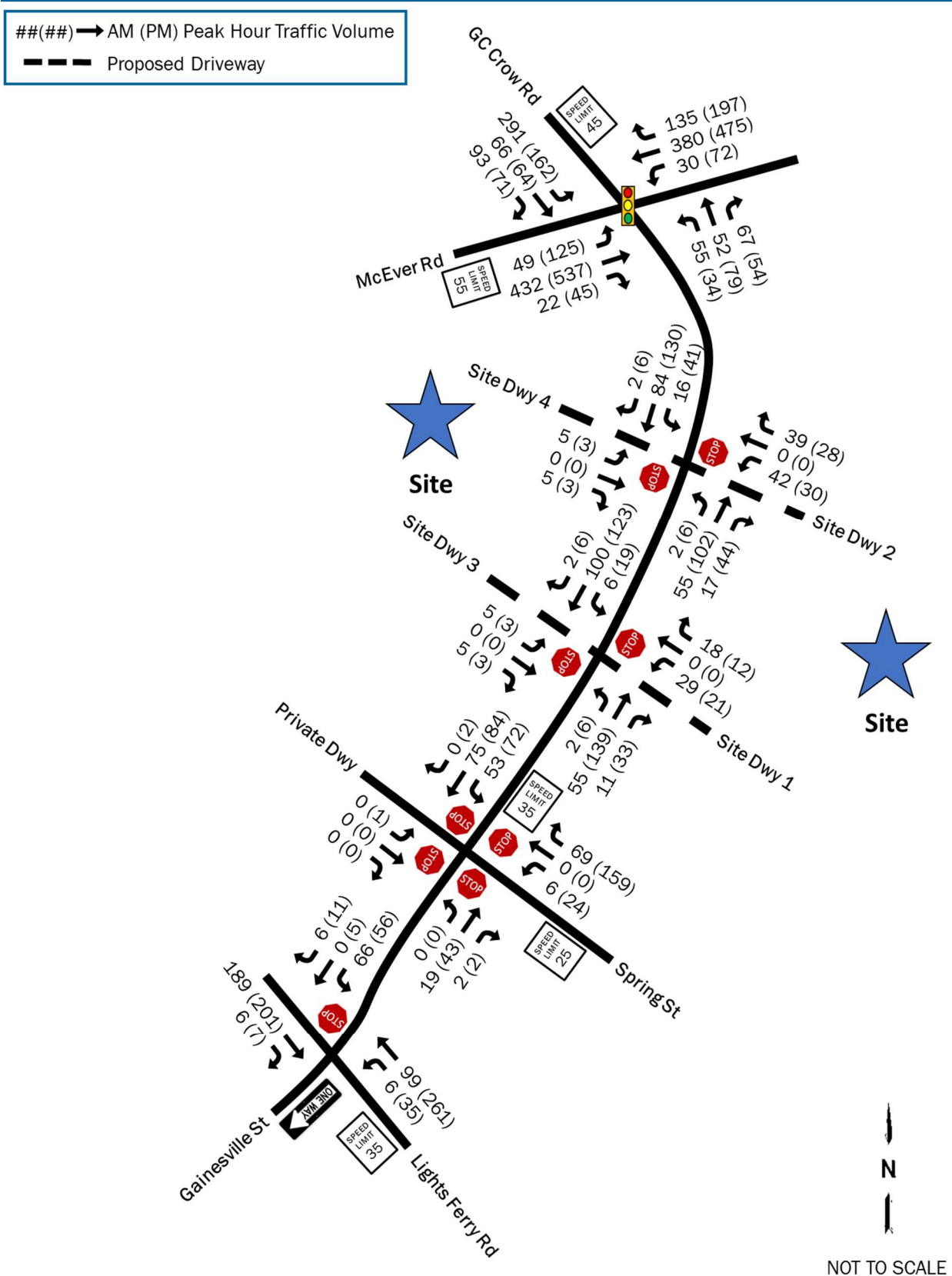


Figure 10: 2025 Build Traffic Volumes



D. Traffic Impact Analyses

The analysis in each of the scenarios for the study was performed using the traffic analysis software Synchro® 11. Average vehicular delays are calculated and reported as Levels of Service (LOS) as defined by the Highway Capacity Manual (HCM 6th Edition). HCM uses a grading system A through F, where A is the best (little to no delay), and F is the worst (very heavy delay). HCM Levels of Service (LOS) standards and Synchro® output reports are included in Appendix C.

D.1. 2022 Existing Conditions Analysis

The results of the 2022 existing conditions capacity analysis are shown in Table 2 and include analysis of the traffic volumes presented in Figure 3.

Table 2: 2022 Existing Conditions Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Gainesville St & Lights Ferry Rd	Stop-Control	SB	A	9.7	B	11.2
			WBL	A	7.6	A	7.7
2	Gainesville St & Spring St	Stop-Control	NB	A	7.1	A	7.4
			SB	A	7.4	A	7.9
			EB	A	0.0	A	7.6
			WB	A	6.7	A	7.3
3	McEver Rd & Gainesville St / GC Crow Rd	Signal	Overall	B	19.9	B	18.8
			EB	C	20.6	B	17.8
			WB	C	20.3	B	18.4
			NB	C	24.6	C	26.0
			SB	B	17.4	B	20.0

As shown in Table 2, the study intersections operate with acceptable Levels of Service during the AM and PM peak hours.

D.2. 2025 No-Build Conditions Capacity Analysis

The results of the 2025 No-Build conditions capacity analysis are shown in Table 3 for the operation of the study intersections with the traffic volumes presented in Figure 4.

Table 3: 2025 No-Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Gainesville St & Lights Ferry Rd	Stop-Control	SB	A	9.9	B	11.9
			WBL	A	7.7	A	7.7
2	Gainesville St & Spring St	Stop-Control	NB	A	7.1	A	7.5
			SB	A	7.5	A	8.0
			EB	A	0.0	A	7.6
			WB	A	6.8	A	7.5
3	McEver Rd & Gainesville St / GC Crow Rd	Signal	Overall	C	21.4	B	19.9
			EB	C	21.9	B	19.0
			WB	C	21.4	B	19.0
			NB	C	28.0	C	29.8
			SB	B	19.3	C	21.5

As shown in Table 3, traffic operations at the study intersections are expected to experience a nominal increase in delay due to the applied growth rate. The delays increase slightly; however, the overall Levels of Service (LOS) remain acceptable at each intersection.

D.3. 2025 Build Conditions Capacity Analysis

The results of the 2025 Build conditions intersection capacity analysis are shown in Table 4 for No-Build plus project volumes as presented in Figure 10.

Table 4: 2025 Build Capacity Analysis

ID	Intersection	Control	Movement	AM		PM	
				LOS	Delay	LOS	Delay
1	Gainesville St & Lights Ferry Rd	Stop-Control	SB	B	11.4	B	13.6
			WBL	A	7.7	A	7.7
2	Gainesville St & Spring St	Stop-Control	NB	A	7.3	A	7.9
			SB	A	8.1	A	9.0
			EB	A	0.0	A	7.9
			WB	A	7.1	A	8.3
3	McEver Rd & Gainesville St / GC Crow Rd	Signal	Overall	C	21.6	C	20.1
			EB	C	22.2	B	19.3
			WB	C	20.8	B	18.3
			NB	C	27.4	C	29.8
			SB	C	20.2	C	23.5
4	Gainesville St & Site Dwy 1 / Site Dwy 3	Stop-Control	EB	A	9.4	B	10.2
			WB	A	9.6	B	10.7
			NBL	A	7.5	A	7.5
			SBL	A	7.4	A	7.6
5	Gainesville St & Site Dwy 2 / Site Dwy 4	Stop-Control	EB	A	9.5	B	10.4
			WB	A	9.7	B	10.8
			NBL	A	7.4	A	7.5
			SBL	A	7.4	A	7.6

As shown in Table 4, the addition of project traffic to the study intersections is expected to have minimal impact on the operation of the study intersections. The delays increase slightly with the addition of the expected project traffic; however, the overall Levels of Service remain acceptable. The addition of the two full access driveways along Gainesville Street do not impact the functionality of traffic operations along the roadway.

E. Turn Lane Evaluations

The need for turn lanes was evaluated for the four proposed site driveways along Gainesville Street using methodologies from the Georgia Department of Transportation (GDOT) Access Manual. The results of the evaluation are summarized in Table 5. It is noted that Gainesville Street is not a state route.

The ADT data collected in May 2022 shows the average weekday traffic to be approximately 2,100 vehicles per day along Gainesville Street. The speed limit on Gainesville Street is 35 miles per hour.

At the southeast driveway (site driveway 1), the northbound right-turning traffic is expected to be 225 vehicles per day, and the southbound left-turning traffic is expected to be 126 vehicles per day.

At the southwest driveway (site driveway 3), the northbound right-turning traffic is expected to be 27 vehicles per day, and the southbound left-turning traffic is expected to be 27 vehicles per day.

At the northeast driveway (site driveway 2), the northbound right-turning traffic is expected to be 510 vehicles per day, and the southbound left-turning traffic is expected to be 466 vehicles per day.

At the northwest driveway (site driveway 4), the northbound right-turning traffic is expected to be 27 vehicles per day, and the southbound left-turning traffic is expected to be 27 vehicles per day.

Table 5: GDOT Turn Lane Evaluations

ID	Intersection	Movement/ Turn Lane	Turn Volume	GDOT Volume Criteria	GDOT Criteria met?
4	Gainesville St & Site Dwy 1 / Site Dwy 3	NBR	225 RT/Day	200 RT/Day	YES
		NBL	27 LT/Day	300 LT/Day	NO
		SBR	27 RT/Day	200 RT/Day	NO
		SBL	126 LT/Day	300 LT/Day	NO
5	Gainesville St & Site Dwy 2 / Site Dwy 4	NBR	510 RT/Day	200 RT/Day	YES
		NBL	27 LT/Day	300 LT/Day	NO
		SBR	27 RT/Day	200 RT/Day	NO
		SBL	466 LT/Day	300 LT/Day	YES

As shown in Table 5, site driveway 1 warrants a northbound right-turn deceleration lane, and site driveway 2 warrants both a northbound right-turn deceleration lane and a southbound left-turn lane.

F. Conclusions

A new residential development is proposed for construction along Gainesville Street in the City of Flowery Branch, Hall County, Georgia. The proposed development will consist of 186 single family homes and 149 townhomes. The development will utilize four (4) new full-access driveways along Gainesville Street with driveways 1 and 3 being opposite each other and driveways 2 and 4 being opposite each other. The development has a projected build-out date of 2025.

When complete, the development is expected to generate a total of 2,870 new daily trips, 203 trips during the AM peak hour (56 entering and 17 exiting), and 263 during the PM peak hour (160 entering and 103 exiting).

Overall traffic operations at the study intersections are satisfactory in the existing conditions. Traffic operations are expected to worsen slightly as evidenced in the No-Build conditions due to the anticipated growth in the study area.

The addition of project traffic is expected to have minimal impact on the LOS and delays at the study intersections with each approach expecting to operate with acceptable levels of service. The proposed driveways are expected to have minimal impact on traffic operations along Gainesville Street.

The southeast driveway (site driveway 1) warrants a right-turn deceleration lane. The northeast driveway (site driveway 2) warrants both a right-turn deceleration lane and a left-turn lane. Turn lanes are not warranted for the driveways on the west side of Gainesville Street (site driveways 3 & 4).

Based on the analysis prepared for the proposed development, improvements at the study intersections are not required to mitigate the impact of the proposed development.

APPENDIX A: DEVELOPMENT CONCEPT PLAN

GSWCC LEVEL II CERTIFIED
DESIGN PROFESSIONAL #05744
(EXP. 02.17.2024)
12460 CRABAPPLE ROAD, SUITE 202-612
ALPHARETTA, GA 30004
PHONE 770.331.7303
schristopher@christopherplanning.com

CONCEPT PLAN
FOR:

5183
GAINESVILLE
STREET

LAND LOT 98
8TH DISTRICT
FLOWERY BRANCH
HALL COUNTY, GEORGIA

FOR:



EDGE CITY PROPERTIES, INC.
4280 DOVE POINT
DULUTH, GA 30096

CONTACT: MR. MIKE DYE
770.814.4500

REVISIONS

SITE ANALYSIS			
SITE AREA	NORTH TRACT	SOUTH TRACT	TOTAL
	11 ACRES ±	49 ACRES ±	60 ACRES ±
(A) 24' X 50' TOWNHOMES	0 UNITS	149 UNITS	149 UNITS
(B) 45' X 100' DETACHED LOT	0 UNITS	87 UNITS	87 UNITS
(C) 55' X 100' DETACHED LOT	32 UNITS	67 UNITS	99 UNITS
TOTALS	32 UNITS	303 UNITS	335 UNITS
PROPOSED DENSITY	2.91 U/AC	6.18 U/AC	5.58 U/AC



DATE:
APRIL 13, 2022

CP&E DRAWING NO:
2022108cp3.dwg

CONCEPT SITE PLAN

SHEET NO.

CP.3

APPENDIX B:
TRAFFIC COUNTS
& GROWTH RATE
DEVELOPMENT WORKSHEET



[Click here for Map](#)

Peak Hour Turning Movement Count

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Tuesday, May 17, 2022	
Period	0700 - 0900
Peak Hour	0700 - 0800

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

All Vehicles	Northbound					Southbound					Eastbound					Westbound					Int
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
Time																					
0700 - 0715	3	16	4	0	23	34	11	22	0	67	11	74	0	0	85	4	82	36	0	122	297
0715 - 0730	5	16	5	0	26	78	23	17	0	118	12	88	4	0	104	3	77	36	0	116	364
0730 - 0745	2	4	8	0	14	73	16	26	0	115	14	113	1	0	128	4	99	31	0	134	391
0745 - 0800	6	10	16	0	32	71	8	17	0	96	6	105	1	0	112	6	76	16	0	98	338
Total	16	46	33	0	95	256	58	82	0	396	43	380	6	0	429	17	334	119	0	470	1390
Approach %	16.84	48.42	34.74	0.00	-	64.65	14.65	20.71	0.00	-	10.02	88.58	1.40	0.00	-	3.62	71.06	25.32	0.00	-	-
PHF	0.67	0.72	0.52	0.00	0.74	0.82	0.63	0.79	0.00	0.84	0.77	0.84	0.38	0.00	0.84	0.71	0.84	0.83	0.00	0.88	0.89

Passenger Vehicles (1-3)

Passenger Vehicles (1-3)																						
Time	Northbound					Southbound					Eastbound					Westbound					Int Total	
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)						
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total		
0700 - 0715	3	16	4	0	23	34	11	20	0	65	10	69	0	0	79	3	79	34	0	116	283	
0715 - 0730	5	16	4	0	25	75	22	17	0	114	8	85	4	0	97	3	74	35	0	112	348	
0730 - 0745	2	4	8	0	14	73	16	26	0	115	14	106	1	0	121	4	95	30	0	129	379	
0745 - 0800	6	10	15	0	31	70	8	17	0	95	5	100	1	0	106	6	69	15	0	90	322	
Total	16	46	31	0	93	252	57	80	0	389	37	360	6	0	403	16	317	114	0	447	1332	
Approach %	17.20	49.46	33.33	0.00	-	64.78	14.65	20.57	0.00	-	9.18	89.33	1.49	0.00	-	3.58	70.92	25.50	0.00	-	-	
PHF	0.67	0.72	0.52	0.00	0.75	0.84	0.65	0.77	0.00	0.85	0.66	0.85	0.38	0.00	0.83	0.67	0.83	0.81	0.00	0.87	0.88	

Single Unit Trucks (4-7)

Single Unit Trucks (4-7)																							
Time	Northbound					Southbound					Eastbound					Westbound					Int Total		
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)							
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total			
0700 - 0715	0	0	0	0	0	0	0	1	0	1	1	3	0	0	4	0	2	2	0	4	9		
0715 - 0730	0	0	1	0	1	3	1	0	0	4	4	3	0	0	7	0	2	1	0	3	15		
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	4	1	0	5	11		
0745 - 0800	0	0	0	0	0	1	0	0	0	1	1	4	0	0	5	0	6	1	0	7	13		
Total	0	0	1	0	1	4	1	1	0	6	6	16	0	0	22	0	14	5	0	19	48		
Approach %	0.00	0.00	100.00	0.00	-	66.67	16.67	16.67	0.00	-	27.27	72.73	0.00	0.00	-	0.00	73.68	26.32	0.00	-	-		
PHF	0.00	0.00	0.25	0.00	0.25	0.33	0.25	0.25	0.00	0.38	0.38	0.67	0.00	0.00	0.79	0.00	0.58	0.63	0.00	0.68	0.80		

Combination Trucks (8-13)

Combination Trucks (8-13)																						
Time	Northbound					Southbound					Eastbound					Westbound					Int Total	
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)						
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total		
0700 - 0715	0	0	0	0	0	0	0	0	1	0	0	2	0	0	2	1	1	0	0	2	5	
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
0745 - 0800	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3	
Total	0	0	1	0	1	0	0	1	0	1	0	4	0	0	4	1	3	0	0	4	10	
Approach %	0.00	0.00	100.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	100.00	0.00	0.00	-	25.00	75.00	0.00	0.00	-	-	
PHF	0.00	0.00	0.25	0.00	0.25	0.00	0.00	0.25	0.00	0.25	0.00	0.50	0.00	0.00	0.50	0.25	0.75	0.00	0.00	0.50	0.50	

Bikes

Lanes	Northbound					Southbound					Eastbound					Westbound					Int
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
Time	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



[Click here for Map](#)

Peak Hour Turning Movement Count

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Tuesday, May 17, 2022	
Period	1600 - 1800
Peak Hour	1700 - 1800

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1700 - 1715	1	22	8	0	31	33	14	17	0	64	30	111	0	0	141	11	129	30	0	170	406
1715 - 1730	3	17	5	0	25	41	9	12	0	62	24	110	0	0	134	8	98	44	0	150	371
1730 - 1745	1	16	6	0	23	35	20	24	0	79	26	145	2	0	173	10	91	51	0	152	427
1745 - 1800	2	14	11	0	27	33	13	9	0	55	30	106	2	0	138	6	99	48	0	153	373
Total	7	69	30	0	106	142	56	62	0	260	110	472	4	0	586	35	417	173	0	625	1577
Approach %	6.60	65.09	28.30	0.00	-	54.62	21.54	23.85	0.00	-	18.77	80.55	0.68	0.00	-	5.60	66.72	27.68	0.00	-	-
PHF	0.58	0.78	0.68	0.00	0.85	0.87	0.70	0.65	0.00	0.82	0.92	0.81	0.50	0.00	0.85	0.80	0.81	0.85	0.00	0.92	0.92

Passenger Vehicles (1-3)

Passenger Vehicles (1-5)	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
Time																					
1700 - 1715	1	22	8	0	31	32	14	16	0	62	30	108	0	0	138	11	124	29	0	164	395
1715 - 1730	3	17	5	0	25	40	9	12	0	61	24	106	0	0	130	8	98	43	0	149	365
1730 - 1745	1	16	6	0	23	35	20	24	0	79	26	142	2	0	170	10	86	51	0	147	419
1745 - 1800	2	14	10	0	26	33	13	9	0	55	29	102	2	0	133	6	98	48	0	152	366
Total	7	69	29	0	105	140	56	61	0	257	109	458	4	0	571	35	406	171	0	612	1545
Approach	6.67	65.71	27.62	0.00	-	54.47	21.79	23.74	0.00	-	19.09	80.21	0.70	0.00	-	5.72	66.34	27.94	0.00	-	-
PHF	0.58	0.78	0.73	0.00	0.85	0.88	0.70	0.64	0.00	0.81	0.91	0.81	0.50	0.00	0.84	0.80	0.82	0.84	0.00	0.93	0.92

Single Unit Trucks (4-7)

Single Unit Trucks (4-7)																					
Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left	Thru	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total	Left	Right	U-Turn	App Total	Left	Thru	Right	U-Turn	App Total		
	1.1	1.2	1.3	1.4		1.5	1.6	1.7	1.8		1.9	1.10	1.11	1.12		1.13	1.14	1.15	1.16		
1700 - 1715	0	0	0	0	0	1	0	1	0	2	0	3	0	0	3	0	3	1	0	4	9
1715 - 1730	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	4
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
1745 - 1800	0	0	1	0	1	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	6
Total	0	0	1	0	1	2	0	1	0	3	1	12	0	0	13	0	6	1	0	7	24
Approach %	0.00	0.00	100.00	0.00	-	66.67	0.00	33.33	0.00	-	7.69	92.31	0.00	0.00	-	0.00	85.71	14.29	0.00	-	-
PHF	0.00	0.00	0.25	0.00	0.25	0.50	0.00	0.25	0.00	0.38	0.25	0.75	0.00	0.00	0.65	0.00	0.50	0.25	0.00	0.44	0.67

Combination Trucks (8-13)

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	1	0	6	8
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	0.00	83.33	16.67	0.00	-	-
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.50	0.00	0.63	0.25	0.00	0.75	0.67

Bikes

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || All vehicles

Flowery Branch, GA



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Site 1 of 3

Gainesville St
Gc Crow Rd
McEver Rd (West)
McEver Rd (East)

Date

Tuesday, May 17, 2022

Lat/Long

34.199083°, -83.922422°

Weather

Fair
74°F

0700 - 0900 (Weekday 2h Session) (05-17-2022)

All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0700 - 0715	3	16	4	0	23	34	11	22	0	67	11	74	0	0	85	4	82	36	0	122	297
0715 - 0730	5	16	5	0	26	78	23	17	0	118	12	88	4	0	104	3	77	36	0	116	364
0730 - 0745	2	4	8	0	14	73	16	26	0	115	14	113	1	0	128	4	99	31	0	134	391
0745 - 0800	6	10	16	0	32	71	8	17	0	96	6	105	1	0	112	6	76	16	0	98	338
Hourly Total	16	46	33	0	95	256	58	82	0	396	43	380	6	0	429	17	334	119	0	470	1390
0800 - 0815	3	2	0	0	5	24	5	21	0	50	6	88	1	0	95	4	85	27	0	116	266
0815 - 0830	6	4	3	0	13	30	12	25	0	67	14	78	2	0	94	2	63	24	0	89	263
0830 - 0845	1	5	2	0	8	24	5	24	0	53	13	89	1	0	103	2	73	15	0	90	254
0845 - 0900	3	2	2	0	7	18	11	12	0	41	14	53	0	0	67	1	76	25	0	102	217
Hourly Total	13	13	7	0	33	96	33	82	0	211	47	308	4	0	359	9	297	91	0	397	1000
Grand Total	29	59	40	0	128	352	91	164	0	607	90	688	10	0	788	26	631	210	0	867	2390
Approach %	22.66	46.09	31.25	0.00	-	57.99	14.99	27.02	0.00	-	11.42	87.31	1.27	0.00	-	3.00	72.78	24.22	0.00	-	-
Intersection %	1.21	2.47	1.67	0.00	5.36	14.73	3.81	6.86	0.00	25.40	3.77	28.79	0.42	0.00	32.97	1.09	26.40	8.79	0.00	36.28	-
PHF	0.67	0.72	0.52	0.00	0.74	0.82	0.63	0.79	0.00	0.84	0.77	0.84	0.38	0.00	0.84	0.71	0.84	0.83	0.00	0.88	0.89

1600 - 1800 (Weekday 2h Session) (05-17-2022)

All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	2	14	7	0	23	21	10	10	0	41	18	79	4	0	101	7	93	27	0	127	292
1615 - 1630	2	10	2	0	14	20	10	15	0	45	26	89	1	0	116	7	93	23	0	123	298
1630 - 1645	0	21	5	0	26	33	19	23	0	75	25	110	4	0	139	6	87	34	0	127	367
1645 - 1700	1	15	5	0	21	33	10	13	0	56	16	94	6	0	116	8	111	28	0	147	340
Hourly Total	5	60	19	0	84	107	49	61	0	217	85	372	15	0	472	28	384	112	0	524	1297
1700 - 1715	1	22	8	0	31	33	14	17	0	64	30	111	0	0	141	11	129	30	0	170	406
1715 - 1730	3	17	5	0	25	41	9	12	0	62	24	110	0	0	134	8	98	44	0	150	371
1730 - 1745	1	16	6	0	23	35	20	24	0	79	26	145	2	0	173	10	91	51	0	152	427
1745 - 1800	2	14	11	0	27	33	13	9	0	55	30	106	2	0	138	6	99	48	0	153	373
Hourly Total	7	69	30	0	106	142	56	62	0	260	110	472	4	0	586	35	417	173	0	625	1577
Grand Total	12	129	49	0	190	249	105	123	0	477	195	844	19	0	1058	63	801	285	0	1149	2874
Approach %	6.32	67.89	25.79	0.00	-	52.20	22.01	25.79	0.00	-	18.43	79.77	1.80	0.00	-	5.48	69.71	24.80	0.00	-	-
Intersection %	0.42	4.49	1.70	0.00	6.61	8.66	3.65	4.28	0.00	16.60	6.78	29.37	0.66	0.00	36.81	2.19	27.87	9.92	0.00	39.98	-
PHF	0.58	0.78	0.68	0.00	0.85	0.87	0.70	0.65	0.00	0.82	0.92	0.81	0.50	0.00	0.85	0.80	0.81	0.85	0.00	0.92	0.92

Classified Turn Movement Count || Passenger Vehicles (1-3)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Site 1 of 3

Gainesville St
Gc Crow Rd
McEver Rd (West)
McEver Rd (East)

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.199083°, -83.922422°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0700 - 0715	3	16	4	0	23	34	11	20	0	65	10	69	0	0	79	3	79	34	0	116	283
0715 - 0730	5	16	4	0	25	75	22	17	0	114	8	85	4	0	97	3	74	35	0	112	348
0730 - 0745	2	4	8	0	14	73	16	26	0	115	14	106	1	0	121	4	95	30	0	129	379
0745 - 0800	6	10	15	0	31	70	8	17	0	95	5	100	1	0	106	6	69	15	0	90	322
Hourly Total	16	46	31	0	93	252	57	80	0	389	37	360	6	0	403	16	317	114	0	447	1332
0800 - 0815	3	2	0	0	5	24	5	20	0	49	6	82	1	0	89	3	80	26	0	109	252
0815 - 0830	6	4	2	0	12	30	12	24	0	66	14	71	1	0	86	2	54	24	0	80	244
0830 - 0845	1	4	2	0	7	24	5	24	0	53	13	79	1	0	93	2	66	14	0	82	235
0845 - 0900	3	2	2	0	7	16	11	12	0	39	11	46	0	0	57	1	67	23	0	91	194
Hourly Total	13	12	6	0	31	94	33	80	0	207	44	278	3	0	325	8	267	87	0	362	925
Grand Total	29	58	37	0	124	346	90	160	0	596	81	638	9	0	728	24	584	201	0	809	2257
Approach %	23.39	46.77	29.84	0.00	-	58.05	15.10	26.85	0.00	-	11.13	87.64	1.24	0.00	-	2.97	72.19	24.85	0.00	-	-
Intersection %	1.28	2.57	1.64	0.00	5.49	15.33	3.99	7.09	0.00	26.41	3.59	28.27	0.40	0.00	32.26	1.06	25.88	8.91	0.00	35.84	-

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	2	14	7	0	23	20	9	10	0	39	18	75	3	0	96	7	91	26	0	124	282
1615 - 1630	2	10	2	0	14	19	10	15	0	44	26	83	1	0	110	7	88	23	0	118	286
1630 - 1645	0	21	5	0	26	32	19	23	0	74	25	107	4	0	136	5	80	34	0	119	355
1645 - 1700	1	15	5	0	21	33	10	12	0	55	16	90	6	0	112	8	109	28	0	145	333
Hourly Total	5	60	19	0	84	104	48	60	0	212	85	355	14	0	454	27	368	111	0	506	1256
1700 - 1715	1	22	8	0	31	32	14	16	0	62	30	108	0	0	138	11	124	29	0	164	395
1715 - 1730	3	17	5	0	25	40	9	12	0	61	24	106	0	0	130	8	98	43	0	149	365
1730 - 1745	1	16	6	0	23	35	20	24	0	79	26	142	2	0	170	10	86	51	0	147	419
1745 - 1800	2	14	10	0	26	33	13	9	0	55	29	102	2	0	133	6	98	48	0	152	366
Hourly Total	7	69	29	0	105	140	56	61	0	257	109	458	4	0	571	35	406	171	0	612	1545
Grand Total	12	129	48	0	189	244	104	121	0	469	194	813	18	0	1025	62	774	282	0	1118	2801
Approach %	6.35	68.25	25.40	0.00	-	52.03	22.17	25.80	0.00	-	18.93	79.32	1.76	0.00	-	5.55	69.23	25.22	0.00	-	-
Intersection %	0.43	4.61	1.71	0.00	6.75	8.71	3.71	4.32	0.00	16.74	6.93	29.03	0.64	0.00	36.59	2.21	27.63	10.07	0.00	39.91	-

Classified Turn Movement Count || Single Unit Trucks (4-7)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Site 1 of 3

Gainesville St
Gc Crow Rd
McEver Rd (West)
McEver Rd (East)

Date

Tuesday, May 17, 2022

Lat/Long

34.199083°, -83.922422°

Weather

Fair
74°F

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	1	0	1	1	3	0	0	4	0	2	2	0	4	9
0715 - 0730	0	0	1	0	1	3	1	0	0	4	4	3	0	0	7	0	2	1	0	3	15
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	4	1	0	5	11
0745 - 0800	0	0	0	0	0	1	0	0	0	1	1	4	0	0	5	0	6	1	0	7	13
Hourly Total	0	0	1	0	1	4	1	1	0	6	6	16	0	0	22	0	14	5	0	19	48
0800 - 0815	0	0	0	0	0	0	0	1	0	1	0	5	0	0	5	1	5	1	0	7	13
0815 - 0830	0	0	1	0	1	0	0	1	0	1	0	5	0	0	5	0	8	0	0	8	15
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	5	1	0	6	13
0845 - 0900	0	0	0	0	0	2	0	0	0	2	2	6	0	0	8	0	7	1	0	8	18
Hourly Total	0	0	1	0	1	2	0	2	0	4	2	23	0	0	25	1	25	3	0	29	59
Grand Total	0	0	2	0	2	6	1	3	0	10	8	39	0	0	47	1	39	8	0	48	107
Approach %	0.00	0.00	100.00	0.00	-	60.00	10.00	30.00	0.00	-	17.02	82.98	0.00	0.00	-	2.08	81.25	16.67	0.00	-	
Intersection %	0.00	0.00	1.87	0.00	1.87	5.61	0.93	2.80	0.00	9.35	7.48	36.45	0.00	0.00	43.93	0.93	36.45	7.48	0.00	44.86	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	0	0	0	0	0	1	1	0	0	2	0	3	1	0	4	0	2	1	0	3	9
1615 - 1630	0	0	0	0	0	1	0	0	0	1	0	5	0	0	5	0	4	0	0	4	10
1630 - 1645	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	6	0	0	6	10
1645 - 1700	0	0	0	0	0	0	0	1	0	1	0	4	0	0	4	0	1	0	0	1	6
Hourly Total	0	0	0	0	0	3	1	1	0	5	0	15	1	0	16	0	13	1	0	14	35
1700 - 1715	0	0	0	0	0	1	0	1	0	2	0	3	0	0	3	0	3	1	0	4	9
1715 - 1730	0	0	0	0	0	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	4
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	5
1745 - 1800	0	0	1	0	1	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	6
Hourly Total	0	0	1	0	1	2	0	1	0	3	1	12	0	0	13	0	6	1	0	7	24
Grand Total	0	0	1	0	1	5	1	2	0	8	1	27	1	0	29	0	19	2	0	21	59
Approach %	0.00	0.00	100.00	0.00	-	62.50	12.50	25.00	0.00	-	3.45	93.10	3.45	0.00	-	0.00	90.48	9.52	0.00	-	
Intersection %	0.00	0.00	1.69	0.00	1.69	8.47	1.69	3.39	0.00	13.56	1.69	45.76	1.69	0.00	49.15	0.00	32.20	3.39	0.00	35.59	

Classified Turn Movement Count || Combination Trucks (8-13)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 1 of 3

Gainesville St
Gc Crow Rd
McEver Rd (West)
McEver Rd (East)

Date

Tuesday, May 17, 2022

Lat/Long

34.199083°, -83.922422°

Weather

Fair
74°F

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	1	0	1	0	2	0	0	2	1	1	0	0	2	5
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
0745 - 0800	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	3
Hourly Total	0	0	1	0	1	0	0	1	0	1	0	4	0	0	4	1	3	0	0	4	10
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	1	0	0	1	4
0830 - 0845	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0	2	0	0	2	6
0845 - 0900	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	2	1	0	3	5
Hourly Total	0	1	0	0	1	0	0	0	0	0	1	7	1	0	9	0	5	1	0	6	16
Grand Total	0	1	1	0	2	0	0	1	0	1	1	11	1	0	13	1	8	1	0	10	26
Approach %	0.00	50.00	50.00	0.00	-	0.00	0.00	100.00	0.00	-	7.69	84.62	7.69	0.00	-	10.00	80.00	10.00	0.00	-	
Intersection %	0.00	3.85	3.85	0.00	7.69	0.00	0.00	3.85	0.00	3.85	3.85	42.31	3.85	0.00	50.00	3.85	30.77	3.85	0.00	38.46	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	3	0	0	4	6
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	1	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	3
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	5	1	0	6	8
Grand Total	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	1	8	1	0	10	14
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	100.00	0.00	0.00	-	10.00	80.00	10.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.57	0.00	0.00	28.57	7.14	57.14	7.14	0.00	71.43	

Classified Turn Movement Count || Bikes

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 1 of 3

Gainesville St
Gc Crow Rd
McEver Rd (West)
McEver Rd (East)

Date

Tuesday, May 17, 2022

Lat/Long

34.199083°, -83.922422°

Weather

Fair
74°F

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	-
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St					Gc Crow Rd					McEver Rd (West)					McEver Rd (East)					
	Left 1.1	Thru 1.2	Right 1.3	U-Turn 1.4	App Total	Left 1.5	Thru 1.6	Right 1.7	U-Turn 1.8	App Total	Left 1.9	Thru 1.10	Right 1.11	U-Turn 1.12	App Total	Left 1.13	Thru 1.14	Right 1.15	U-Turn 1.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Pedestrian Count || All vehicles

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 1 of 3

Gainesville St
Gc Crow Rd
McEver Rd (West)
McEver Rd (East)

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.199083°, -83.922422°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Pedestrians

TIME	Northbound				Southbound				Eastbound				Westbound				Int Total
	Gainesville St				Gc Crow Rd				McEver Rd (West)				McEver Rd (East)				
	EB 1a	WB 1b		App Total	EB 1c	WB 1d		App Total	NB 1e	SB 1f		App Total	NB 1g	SB 1h		App Total	
0700 - 0715	0	0		0	0	0		0	0	0		0	0	0		0	0
0715 - 0730	0	0		0	0	0		0	0	0		0	0	0		0	0
0730 - 0745	0	0		0	0	0		0	0	0		0	0	0		0	0
0745 - 0800	0	0		0	0	0		0	0	0		0	0	0		0	0
Hourly Total	0	0		0	0	0		0	0	0		0	0	0		0	0
0800 - 0815	0	0		0	0	0		0	0	0		0	0	0		0	0
0815 - 0830	0	0		0	0	0		0	0	0		0	0	0		0	0
0830 - 0845	0	0		0	0	0		0	0	0		0	0	0		0	0
0845 - 0900	0	0		0	0	0		0	0	0		0	0	0		0	0
Hourly Total	0	0		0	0	0		0	0	0		0	0	0		0	0
Grand Total	0	0		0	0	0		0	0	0		0	0	0		0	0
Approach %	0.00	0.00		-	0.00	0.00		-	0.00	0.00		-	0.00	0.00		-	
Intersection %	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Pedestrians

TIME	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total		
	Gainesville St			Gc Crow Rd			McEver Rd (West)			McEver Rd (East)						
	EB 1a	WB 1b		App Total	EB 1c	WB 1d		App Total	NB 1e	SB 1f		App Total			NB 1g	SB 1h
1600 - 1615	0	0		0	0	0		0	0	0		0	0	0	0	0
1615 - 1630	0	0		0	0	0		0	0	0		0	0	0	0	0
1630 - 1645	0	0		0	0	0		0	0	0		0	0	0	0	0
1645 - 1700	0	0		0	0	0		0	0	0		0	0	0	0	0
Hourly Total	0	0		0	0	0		0	0	0		0	0	0	0	0
1700 - 1715	0	0		0	0	0		0	0	0		0	0	0	0	0
1715 - 1730	0	0		0	0	0		0	0	0		0	0	0	0	0
1730 - 1745	0	0		0	0	0		0	0	0		0	0	0	0	0
1745 - 1800	0	0		0	0	0		0	0	0		0	1	0	1	1
Hourly Total	0	0		0	0	0		0	0	0		0	1	0	1	1
Grand Total	0	0		0	0	0		0	0	0		0	1	0	1	1
Approach %	0.00	0.00		-	0.00	0.00		-	0.00	0.00		-	100.00	0.00	-	
Intersection %	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	100.00	0.00	100.00	

Start Date: 5/17/2022	Gainesville St Northbound			Gc Crow Rd Southbound			McEver Rd (West) Eastbound			McEver Rd (East) Westbound			Total
Time	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM - 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM - 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM - 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM - 07:15 AM	3	16	4	34	11	22	11	74	0	4	82	36	297
07:15 AM - 07:30 AM	5	16	5	78	23	17	12	88	4	3	77	36	364
07:30 AM - 07:45 AM	2	4	8	73	16	26	14	113	1	4	99	31	391
07:45 AM - 08:00 AM	6	10	16	71	8	17	6	105	1	6	76	16	338
08:00 AM - 08:15 AM	3	2	0	24	5	21	6	88	1	4	85	27	266
08:15 AM - 08:30 AM	6	4	3	30	12	25	14	78	2	2	63	24	263
08:30 AM - 08:45 AM	1	5	2	24	5	24	13	89	1	2	73	15	254
08:45 AM - 09:00 AM	3	2	2	18	11	12	14	53	0	1	76	25	217
09:00 AM - 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM - 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM - 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM - 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM - 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM - 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM - 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM - 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM - 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM - 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM - 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM - 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM - 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM - 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM - 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM - 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM - 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM - 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM - 04:15 PM	2	14	7	21	10	10	18	79	4	7	93	27	292
04:15 PM - 04:30 PM	2	10	2	20	10	15	26	89	1	7	93	23	298
04:30 PM - 04:45 PM	0	21	5	33	19	23	25	110	4	6	87	34	367
04:45 PM - 05:00 PM	1	15	5	33	10	13	16	94	6	8	111	28	340
05:00 PM - 05:15 PM	1	22	8	33	14	17	30	111	0	11	129	30	406
05:15 PM - 05:30 PM	3	17	5	41	9	12	24	110	0	8	98	44	371
05:30 PM - 05:45 PM	1	16	6	35	20	24	26	145	2	10	91	51	427
05:45 PM - 06:00 PM	2	14	11	33	13	9	30	106	2	6	99	48	374
06:00 PM - 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM - 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM - 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM - 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0



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Peak Hour Turning Movement Count

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Tuesday, May 17, 2022	
Period	0700 - 0900
Peak Hour	0745 - 0845

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

All vehicles		Northbound					Southbound					Eastbound					Westbound					Int Total
		Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
Time	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total		
0745 - 0800	0	4	0	0	4	5	7	0	0	12	0	0	0	0	0	1	0	12	0	13	29	
0800 - 0815	0	4	1	0	5	9	1	0	0	10	0	0	0	0	0	2	0	5	0	7	22	
0815 - 0830	0	2	1	0	3	3	1	0	0	4	0	0	0	0	0	1	0	12	0	13	20	
0830 - 0845	0	7	0	0	7	9	5	0	0	14	0	0	0	0	0	1	0	4	0	5	26	
Total	0	17	2	0	19	26	14	0	0	40	0	0	0	0	0	5	0	33	0	38	97	
Approach %	0.00	89.47	10.53	0.00	-	65.00	35.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	13.16	0.00	86.84	0.00	-	-	
PHF	0.00	0.61	0.50	0.00	0.68	0.72	0.50	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.69	0.00	0.73	0.84	

Passenger Vehicles (1-3)

Passenger Vehicles (1-3)																						
Time	Northbound					Southbound					Eastbound					Westbound					Int Total	
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St						
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total		
0745 - 0800	0	4	0	0	4	5	7	0	0	12	0	0	0	0	0	1	0	11	0	12	28	
0800 - 0815	0	4	1	0	5	9	1	0	0	10	0	0	0	0	0	2	0	5	0	7	22	
0815 - 0830	0	2	1	0	3	3	1	0	0	4	0	0	0	0	0	1	0	11	0	12	19	
0830 - 0845	0	7	0	0	7	8	5	0	0	13	0	0	0	0	0	1	0	3	0	4	24	
Total	0	17	2	0	19	25	14	0	0	39	0	0	0	0	0	5	0	30	0	35	93	
Approach %	0.00	89.47	10.53	0.00	-	64.10	35.90	0.00	0.00	-	0.00	0.00	0.00	0.00	-	14.29	0.00	85.71	0.00	-	-	
PHF	0.00	0.61	0.50	0.00	0.68	0.69	0.50	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.68	0.00	0.73	0.83	

Single Unit Trucks (4-7)

Single Unit Trucks (4-7)																						
Time	Northbound					Southbound					Eastbound					Westbound					Int Total	
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St						
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total		
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.25	

Combination Trucks (8-13)

Combination Trucks (8-13)																						
Time	Northbound					Southbound					Eastbound					Westbound						
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St						
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	Int Total	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2	
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	2	3	
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.50	0.38	

Bikes

Bikes	Time																					
	Northbound					Southbound					Eastbound					Westbound						
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St						
Time	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	Int Total	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	



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Peak Hour Turning Movement Count

Flowery Branch, GA



Marr Traffic
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Tuesday, May 17, 2022	
Period	1600 - 1800
Peak Hour	1630 - 1730

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

All vehicles		Northbound					Southbound					Eastbound					Westbound					Int Total
		Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
		Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
Time	1630 - 1645	0	8	1	0	9	13	7	0	0	20	1	0	0	0	1	5	0	15	0	20	50
	1645 - 1700	0	6	0	0	6	9	12	0	0	21	0	0	0	0	0	4	0	16	0	20	47
	1700 - 1715	0	10	1	0	11	15	7	2	0	24	0	0	0	0	0	5	0	12	0	17	52
	1715 - 1730	0	14	0	0	14	12	12	0	0	24	0	0	0	0	0	7	0	19	0	26	64
	Total	0	38	2	0	40	49	38	2	0	89	1	0	0	0	1	21	0	62	0	83	213
	Approach %	0.00	95.00	5.00	0.00	-	55.06	42.70	2.25	0.00	-	100.00	0.00	0.00	0.00	-	25.30	0.00	74.70	0.00	-	
	PHF	0.00	0.68	0.50	0.00	0.71	0.82	0.79	0.25	0.00	0.93	0.25	0.00	0.00	0.00	0.25	0.75	0.00	0.82	0.00	0.80	0.83

Passenger Vehicles (1-3)

Passenger Vehicles (1-3)																					
Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1630 - 1645	0	8	1	0	9	10	7	0	0	17	1	0	0	0	1	5	0	15	0	20	47
1645 - 1700	0	6	0	0	6	9	12	0	0	21	0	0	0	0	0	3	0	16	0	19	46
1700 - 1715	0	10	1	0	11	15	7	2	0	24	0	0	0	0	0	4	0	12	0	16	51
1715 - 1730	0	13	0	0	13	12	12	0	0	24	0	0	0	0	0	6	0	19	0	25	62
Total	0	37	2	0	39	46	38	2	0	86	1	0	0	0	1	18	0	62	0	80	206
Approach %	0.00	94.87	5.13	0.00	-	53.49	44.19	2.33	0.00	-	100.00	0.00	0.00	0.00	-	22.50	0.00	77.50	0.00	-	
PHF	0.00	0.71	0.50	0.00	0.75	0.77	0.79	0.25	0.00	0.90	0.25	0.00	0.00	0.00	0.25	0.75	0.00	0.82	0.00	0.80	0.83

Single Unit Trucks (4-7)

Single Unit Trucks (4-7)	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
Time																					
1630 - 1645	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	2	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
1715 - 1730	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
Total	0	1	0	0	1	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	
Approach %	0.00	100.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	
PHF	0.00	0.25	0.00	0.00	0.25	0.25	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.75	

Combination Trucks (8-13)

Combination Trucks (8-13)																						
Time	Northbound					Southbound					Eastbound					Westbound					Int Total	
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St						
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total		
1630 - 1645	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-		
PHF	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	

Bikes

Bikes	Northbound																					Southbound					Eastbound					Westbound				
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St																				
Time	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	Int Total															
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0															
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-																
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00															

Classified Turn Movement Count || All vehicles

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Site 2 of 3

Gainesville St (South)
Gainesville St (North)
Driveway
Spring St

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.188153°, -83.926356°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
TIME	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0700 - 0715	0	2	0	0	2	3	1	0	0	4	0	0	0	0	0	2	0	10	0	12	18
0715 - 0730	0	3	0	0	3	8	2	0	0	10	0	0	0	0	0	1	0	3	0	4	17
0730 - 0745	0	0	0	0	0	12	3	0	0	15	0	0	0	0	0	3	0	6	0	9	24
0745 - 0800	0	4	0	0	4	5	7	0	0	12	0	0	0	0	0	1	0	12	0	13	29
Hourly Total	0	9	0	0	9	28	13	0	0	41	0	0	0	0	0	7	0	31	0	38	88
0800 - 0815	0	4	1	0	5	9	1	0	0	10	0	0	0	0	0	2	0	5	0	7	22
0815 - 0830	0	2	1	0	3	3	1	0	0	4	0	0	0	0	0	1	0	12	0	13	20
0830 - 0845	0	7	0	0	7	9	5	0	0	14	0	0	0	0	0	1	0	4	0	5	26
0845 - 0900	0	1	0	0	1	5	2	0	0	7	0	0	0	0	0	1	0	5	0	6	14
Hourly Total	0	14	2	0	16	26	9	0	0	35	0	0	0	0	0	5	0	26	0	31	82
Grand Total	0	23	2	0	25	54	22	0	0	76	0	0	0	0	0	12	0	57	0	69	170
Approach %	0.00	92.00	8.00	0.00	-	71.05	28.95	0.00	0.00	-	0.00	0.00	0.00	0.00	-	17.39	0.00	82.61	0.00	-	
Intersection %	0.00	13.53	1.18	0.00	14.71	31.76	12.94	0.00	0.00	44.71	0.00	0.00	0.00	0.00	0.00	7.06	0.00	33.53	0.00	40.59	
PHF	0.00	0.61	0.50	0.00	0.68	0.72	0.50	0.00	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.69	0.00	0.73	0.84

1600 - 1800 (Weekday 2h Session) (05-17-2022)

All vehicles

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	11	0	0	11	10	13	1	0	24	0	0	0	0	0	4	0	16	0	20	55
1615 - 1630	0	7	2	0	9	8	10	0	0	18	0	0	0	0	0	2	0	14	0	16	43
1630 - 1645	0	8	1	0	9	13	7	0	0	20	1	0	0	0	1	5	0	15	0	20	50
1645 - 1700	0	6	0	0	6	9	12	0	0	21	0	0	0	0	0	4	0	16	0	20	47
Hourly Total	0	32	3	0	35	40	42	1	0	83	1	0	0	0	1	15	0	61	0	76	195
1700 - 1715	0	10	1	0	11	15	7	2	0	24	0	0	0	0	0	5	0	12	0	17	52
1715 - 1730	0	14	0	0	14	12	12	0	0	24	0	0	0	0	0	7	0	19	0	26	64
1730 - 1745	0	11	0	0	11	6	4	0	0	10	0	1	0	0	1	5	0	18	0	23	45
1745 - 1800	0	13	0	0	13	7	10	0	0	17	0	0	0	0	0	4	0	18	0	22	52
Hourly Total	0	48	1	0	49	40	33	2	0	75	0	1	0	0	1	21	0	67	0	88	213
Grand Total	0	80	4	0	84	80	75	3	0	158	1	1	0	0	2	36	0	128	0	164	408
Approach %	0.00	95.24	4.76	0.00	-	50.63	47.47	1.90	0.00	-	50.00	50.00	0.00	0.00	-	21.95	0.00	78.05	0.00	-	
Intersection %	0.00	19.61	0.98	0.00	20.59	19.61	18.38	0.74	0.00	38.73	0.25	0.25	0.00	0.00	0.49	8.82	0.00	31.37	0.00	40.20	
PHF	0.00	0.68	0.50	0.00	0.71	0.82	0.79	0.25	0.00	0.93	0.25	0.00	0.00	0.00	0.25	0.75	0.00	0.82	0.00	0.80	0.83

Classified Turn Movement Count || Passenger Vehicles (1-3)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 2 of 3

Gainesville St (South)
Gainesville St (North)
Driveway
Spring St

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.188153°, -83.926356°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0700 - 0715	0	2	0	0	2	3	1	0	0	4	0	0	0	0	0	2	0	10	0	12	18
0715 - 0730	0	3	0	0	3	8	2	0	0	10	0	0	0	0	0	0	0	3	0	3	16
0730 - 0745	0	0	0	0	0	11	3	0	0	14	0	0	0	0	0	3	0	6	0	9	23
0745 - 0800	0	4	0	0	4	5	7	0	0	12	0	0	0	0	0	1	0	11	0	12	28
Hourly Total	0	9	0	0	9	27	13	0	0	40	0	0	0	0	0	6	0	30	0	36	85
0800 - 0815	0	4	1	0	5	9	1	0	0	10	0	0	0	0	0	2	0	5	0	7	22
0815 - 0830	0	2	1	0	3	3	1	0	0	4	0	0	0	0	0	1	0	11	0	12	19
0830 - 0845	0	7	0	0	7	8	5	0	0	13	0	0	0	0	0	1	0	3	0	4	24
0845 - 0900	0	1	0	0	1	5	2	0	0	7	0	0	0	0	0	1	0	5	0	6	14
Hourly Total	0	14	2	0	16	25	9	0	0	34	0	0	0	0	0	5	0	24	0	29	79
Grand Total	0	23	2	0	25	52	22	0	0	74	0	0	0	0	0	11	0	54	0	65	164
Approach %	0.00	92.00	8.00	0.00	-	70.27	29.73	0.00	0.00	-	0.00	0.00	0.00	0.00	-	16.92	0.00	83.08	0.00	-	
Intersection %	0.00	14.02	1.22	0.00	15.24	31.71	13.41	0.00	0.00	45.12	0.00	0.00	0.00	0.00	0.00	6.71	0.00	32.93	0.00	39.63	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	10	0	0	10	10	13	1	0	24	0	0	0	0	0	4	0	16	0	20	54
1615 - 1630	0	7	2	0	9	8	10	0	0	18	0	0	0	0	0	2	0	14	0	16	43
1630 - 1645	0	8	1	0	9	10	7	0	0	17	1	0	0	0	1	5	0	15	0	20	47
1645 - 1700	0	6	0	0	6	9	12	0	0	21	0	0	0	0	0	3	0	16	0	19	46
Hourly Total	0	31	3	0	34	37	42	1	0	80	1	0	0	0	1	14	0	61	0	75	190
1700 - 1715	0	10	1	0	11	15	7	2	0	24	0	0	0	0	0	4	0	12	0	16	51
1715 - 1730	0	13	0	0	13	12	12	0	0	24	0	0	0	0	0	6	0	19	0	25	62
1730 - 1745	0	11	0	0	11	6	4	0	0	10	0	1	0	0	1	5	0	18	0	23	45
1745 - 1800	0	13	0	0	13	7	10	0	0	17	0	0	0	0	0	4	0	18	0	22	52
Hourly Total	0	47	1	0	48	40	33	2	0	75	0	1	0	0	1	19	0	67	0	86	210
Grand Total	0	78	4	0	82	77	75	3	0	155	1	1	0	0	2	33	0	128	0	161	400
Approach %	0.00	95.12	4.88	0.00	-	49.68	48.39	1.94	0.00	-	50.00	50.00	0.00	0.00	-	20.50	0.00	79.50	0.00	-	
Intersection %	0.00	19.50	1.00	0.00	20.50	19.25	18.75	0.75	0.00	38.75	0.25	0.25	0.00	0.00	0.50	8.25	0.00	32.00	0.00	40.25	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 2 of 3

Gainesville St (South)
Gainesville St (North)
Driveway
Spring St

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.188153°, -83.926356°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	2
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	50.00	0.00	50.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	50.00	0.00	100.00	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Hourly Total	0	1	0	0	1	2	0	0	0	2	0	0	0	0	0	1	0	0	0	1	4
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
1715 - 1730	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3
Grand Total	0	2	0	0	2	2	0	0	0	2	0	0	0	0	0	3	0	0	0	3	7
Approach %	0.00	100.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	
Intersection %	0.00	28.57	0.00	0.00	28.57	28.57	0.00	0.00	0.00	28.57	0.00	0.00	0.00	0.00	0.00	42.86	0.00	0.00	0.00	42.86	

Classified Turn Movement Count || Combination Trucks (8-13)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 2 of 3

Gainesville St (South)
Gainesville St (North)
Driveway
Spring St

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.188153°, -83.926356°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Hourly Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	2
Grand Total	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	0	2	4
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	50.00	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	
Approach %	0.00	0.00	0.00	0.00	-	100.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Bikes

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Site 2 of 3

Gainesville St (South)
Gainesville St (North)
Driveway
Spring St

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.188153°, -83.926356°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	-
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Gainesville St (South)					Gainesville St (North)					Driveway					Spring St					
	Left 2.1	Thru 2.2	Right 2.3	U-Turn 2.4	App Total	Left 2.5	Thru 2.6	Right 2.7	U-Turn 2.8	App Total	Left 2.9	Thru 2.10	Right 2.11	U-Turn 2.12	App Total	Left 2.13	Thru 2.14	Right 2.15	U-Turn 2.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Pedestrian Count || All vehicles

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 2 of 3

Gainesville St (South)
Gainesville St (North)
Driveway
Spring St

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.188153°, -83.926356°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Pedestrians

	Northbound				Southbound				Eastbound				Westbound				
	Gainesville St (South)				Gainesville St (North)				Driveway				Spring St				
TIME	EB 2a	WB 2b		App Total	EB 2c	WB 2d		App Total	NB 2e	SB 2f		App Total	NB 2g	SB 2h		App Total	Int Total
0700 - 0715	0	0		0	0	0		0	0	0		0	0	0		0	0
0715 - 0730	0	0		0	0	0		0	0	0		0	0	0		0	0
0730 - 0745	0	0		0	0	0		0	0	0		0	0	0		0	0
0745 - 0800	0	0		0	0	0		0	0	0		0	0	0		0	0
Hourly Total	0	0		0	0	0		0	0	0		0	0	0		0	0
0800 - 0815	0	0		0	0	0		0	0	0		0	0	0		0	0
0815 - 0830	0	0		0	0	0		0	0	0		0	0	0		0	0
0830 - 0845	0	0		0	0	0		0	0	0		0	0	0		0	0
0845 - 0900	0	0		0	0	0		0	0	0		0	0	0		0	0
Hourly Total	0	0		0	0	0		0	0	0		0	0	0		0	0
Grand Total	0	0		0	0	0		0	0	0		0	0	0		0	0
Approach %	0.00	0.00		-	0.00	0.00		-	0.00	0.00		-	0.00	0.00		-	
Intersection %	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00		0.00	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Pedestrians

TIME	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	Gainesville St (South)			Gainesville St (North)			Driveway			Spring St				
	EB	WB	App Total	EB	WB	App Total	NB	SB	App Total	NB	SB	App Total		
	2a	2b		2c	2d		2e	2f		2g	2h			
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	

Start Date: 5/17/2022	Gainesville St (South) Northbound			Gainesville St (North) Southbound			Driveway Eastbound			Spring St Westbound			Total
Time	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM - 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM - 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM - 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM - 07:15 AM	0	2	0	3	1	0	0	0	0	2	0	10	18
07:15 AM - 07:30 AM	0	3	0	8	2	0	0	0	0	1	0	3	17
07:30 AM - 07:45 AM	0	0	0	12	3	0	0	0	0	3	0	6	24
07:45 AM - 08:00 AM	0	4	0	5	7	0	0	0	0	1	0	12	29
08:00 AM - 08:15 AM	0	4	1	9	1	0	0	0	0	2	0	5	22
08:15 AM - 08:30 AM	0	2	1	3	1	0	0	0	0	1	0	12	20
08:30 AM - 08:45 AM	0	7	0	9	5	0	0	0	0	1	0	4	26
08:45 AM - 09:00 AM	0	1	0	5	2	0	0	0	0	1	0	5	14
09:00 AM - 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM - 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM - 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM - 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM - 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM - 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM - 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM - 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM - 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM - 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM - 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM - 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM - 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM - 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM - 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM - 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM - 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM - 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM - 04:15 PM	0	11	0	10	13	1	0	0	0	4	0	16	55
04:15 PM - 04:30 PM	0	7	2	8	10	0	0	0	0	2	0	14	43
04:30 PM - 04:45 PM	0	8	1	13	7	0	1	0	0	5	0	15	50
04:45 PM - 05:00 PM	0	6	0	9	12	0	0	0	0	4	0	16	47
05:00 PM - 05:15 PM	0	10	1	15	7	2	0	0	0	5	0	12	52
05:15 PM - 05:30 PM	0	14	0	12	12	0	0	0	0	7	0	19	64
05:30 PM - 05:45 PM	0	11	0	6	4	0	0	1	0	5	0	18	45
05:45 PM - 06:00 PM	0	13	0	7	10	0	0	0	0	4	0	18	52
06:00 PM - 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM - 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM - 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM - 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0



[Click here for Map](#)

Peak Hour Turning Movement Count

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Tuesday, May 17, 2022	
Period	0700 - 0900
Peak Hour	0730 - 0830

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0730 - 0745	0	25	0	0	25	0	49	4	0	53	0	0	0	0	0	2	0	2	0	4	82
0745 - 0800	0	23	0	0	23	0	45	0	0	45	0	0	0	0	0	0	0	2	0	2	70
0800 - 0815	2	19	0	0	21	0	37	0	0	37	0	0	0	0	0	1	0	1	0	2	60
0815 - 0830	3	20	0	0	23	0	35	1	0	36	0	0	0	0	0	3	0	0	0	3	62
Total	5	87	0	0	92	0	166	5	0	171	0	0	0	0	0	6	0	5	0	11	274
Approach %	5.43	94.57	0.00	0.00	-	0.00	97.08	2.92	0.00	-	0.00	0.00	0.00	0.00	-	54.55	0.00	45.45	0.00	-	
PHF	0.42	0.87	0.00	0.00	0.92	0.00	0.85	0.31	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.63	0.00	0.69	0.84

Passenger Vehicles (1-3)

Passenger Vehicles (1-5)	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
Time																					
0730 - 0745	0	23	0	0	23	0	48	3	0	51	0	0	0	0	0	2	0	2	0	4	78
0745 - 0800	0	23	0	0	23	0	45	0	0	45	0	0	0	0	0	0	0	2	0	2	70
0800 - 0815	2	18	0	0	20	0	37	0	0	37	0	0	0	0	0	1	0	1	0	2	59
0815 - 0830	3	20	0	0	23	0	35	1	0	36	0	0	0	0	0	3	0	0	0	3	62
Total	5	84	0	0	89	0	165	4	0	169	0	0	0	0	0	6	0	5	0	11	269
Approach %	5.62	94.38	0.00	0.00	-	0.00	97.63	2.37	0.00	-	0.00	0.00	0.00	0.00	-	54.55	0.00	45.45	0.00	-	
PHF	0.42	0.91	0.00	0.00	0.97	0.00	0.86	0.33	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.63	0.00	0.69	0.86

Single Unit Trucks (4-7)

Single Onk Week (4/7)																					
Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0730 - 0745	0	2	0	0	2	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	4
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	3	0	0	3	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	5
Approach %	0.00	100.00	0.00	0.00	-	0.00	50.00	50.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.38	0.00	0.00	0.38	0.00	0.25	0.25	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31

Combination Trucks (8-13)

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Bikes

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	



[Click here for Map](#)

Peak Hour Turning Movement Count

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Tuesday, May 17, 2022	
Period	1600 - 1800
Peak Hour	1645 - 1745

* the Peak Hour Diagram does not include Bikes

Session Parameters

(Drop Down Menu)

Peak Hour

Volume



All vehicles

All Vehicles	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
Time																					
1645 - 1700	6	57	0	0	63	0	55	1	0	56	0	0	0	0	0	3	1	2	0	6	125
1700 - 1715	8	57	0	0	65	0	35	2	0	37	0	0	0	0	0	4	1	3	0	8	110
1715 - 1730	9	48	0	0	57	0	41	2	0	43	0	0	0	0	0	4	1	3	0	8	108
1730 - 1745	8	67	0	0	75	0	46	1	0	47	0	0	0	0	0	2	1	2	0	5	127
Total	31	229	0	0	260	0	177	6	0	183	0	0	0	0	0	13	4	10	0	27	470
Approach %	11.92	88.08	0.00	0.00	-	0.00	96.72	3.28	0.00	-	0.00	0.00	0.00	0.00	-	48.15	14.81	37.04	0.00	-	
PHF	0.86	0.85	0.00	0.00	0.87	0.00	0.80	0.75	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.81	1.00	0.83	0.00	0.84	0.93

Passenger Vehicles (1-3)

Passenger Vehicles (1-5)	Northbound					Southbound					Eastbound					Westbound					Int. Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
Time																					
1645 - 1700	6	57	0	0	63	0	55	1	0	56	0	0	0	0	0	3	1	2	0	6	
1700 - 1715	8	57	0	0	65	0	35	2	0	37	0	0	0	0	0	4	1	2	0	7	
1715 - 1730	9	48	0	0	57	0	41	2	0	43	0	0	0	0	0	4	1	3	0	8	
1730 - 1745	8	67	0	0	75	0	46	1	0	47	0	0	0	0	0	2	1	2	0	5	
Total	31	229	0	0	260	0	177	6	0	183	0	0	0	0	0	13	4	9	0	26	
Approach %	11.92	88.08	0.00	0.00	-	0.00	96.72	3.28	0.00	-	0.00	0.00	0.00	0.00	-	50.00	15.38	34.62	0.00	-	
PHF	0.86	0.85	0.00	0.00	0.87	0.00	0.80	0.75	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.81	1.00	0.75	0.00	0.81	
																				0.92	

Single Unit Trucks (4-7)

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.25

Combination Trucks (8-13)

Continuation Trucks (0-15)																					
Time	Northbound					Southbound					Eastbound					Westbound					
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	Int Total
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Bikes

Time	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || All vehicles

Flowery Branch, GA



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Site 3 of 3

Lights Ferry Rd (South)
Lights Ferry Rd (North)
Gainesville St (West)
Gainesville St (East)

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.184589°, -83.929154°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
TIME	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0700 - 0715	2	15	0	0	17	0	38	1	0	39	0	0	0	0	0	0	0	0	0	0	56
0715 - 0730	0	18	0	0	18	0	37	2	0	39	0	0	0	0	0	2	0	2	0	4	61
0730 - 0745	0	25	0	0	25	0	49	4	0	53	0	0	0	0	0	2	0	2	0	4	82
0745 - 0800	0	23	0	0	23	0	45	0	0	45	0	0	0	0	0	0	0	2	0	2	70
Hourly Total	2	81	0	0	83	0	169	7	0	176	0	0	0	0	0	4	0	6	0	10	269
0800 - 0815	2	19	0	0	21	0	37	0	0	37	0	0	0	0	0	1	0	1	0	2	60
0815 - 0830	3	20	0	0	23	0	35	1	0	36	0	0	0	0	0	3	0	0	0	3	62
0830 - 0845	3	23	0	0	26	0	29	2	0	31	0	0	0	0	0	3	1	2	0	6	63
0845 - 0900	0	27	0	0	27	0	43	0	0	43	0	0	0	0	0	2	0	0	0	2	72
Hourly Total	8	89	0	0	97	0	144	3	0	147	0	0	0	0	0	9	1	3	0	13	257
Grand Total	10	170	0	0	180	0	313	10	0	323	0	0	0	0	0	13	1	9	0	23	526
Approach %	5.56	94.44	0.00	0.00	-	0.00	96.90	3.10	0.00	-	0.00	0.00	0.00	0.00	-	56.52	4.35	39.13	0.00	-	
Intersection %	1.90	32.32	0.00	0.00	34.22	0.00	59.51	1.90	0.00	61.41	0.00	0.00	0.00	0.00	0.00	2.47	0.19	1.71	0.00	4.37	
PHF	0.42	0.87	0.00	0.00	0.92	0.00	0.85	0.31	0.00	0.81	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.63	0.00	0.69	0.84

1600 - 1800 (Weekday 2h Session) (05-17-2022)

All vehicles

	Northbound					Southbound					Eastbound					Westbound					
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
TIME	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	Int Total
1600 - 1615	3	61	0	0	64	0	51	3	0	54	0	0	0	0	0	1	1	1	0	3	121
1615 - 1630	5	57	0	0	62	0	36	1	0	37	0	0	0	0	0	3	0	0	0	3	102
1630 - 1645	7	47	0	0	54	0	40	1	0	41	0	0	0	0	0	2	0	4	0	6	101
1645 - 1700	6	57	0	0	63	0	55	1	0	56	0	0	0	0	0	3	1	2	0	6	125
Hourly Total	21	222	0	0	243	0	182	6	0	188	0	0	0	0	0	9	2	7	0	18	449
1700 - 1715	8	57	0	0	65	0	35	2	0	37	0	0	0	0	0	4	1	3	0	8	110
1715 - 1730	9	48	0	0	57	0	41	2	0	43	0	0	0	0	0	4	1	3	0	8	108
1730 - 1745	8	67	0	0	75	0	46	1	0	47	0	0	0	0	0	2	1	2	0	5	127
1745 - 1800	7	60	0	0	67	0	43	0	0	43	0	0	0	0	0	4	2	0	0	6	116
Hourly Total	32	232	0	0	264	0	165	5	0	170	0	0	0	0	0	14	5	8	0	27	461
Grand Total	53	454	0	0	507	0	347	11	0	358	0	0	0	0	0	23	7	15	0	45	910
Approach %	10.45	89.55	0.00	0.00	-	0.00	96.93	3.07	0.00	-	0.00	0.00	0.00	0.00	-	51.11	15.56	33.33	0.00	-	
Intersection %	5.82	49.89	0.00	0.00	55.71	0.00	38.13	1.21	0.00	39.34	0.00	0.00	0.00	0.00	0.00	2.53	0.77	1.65	0.00	4.95	
PHF	0.86	0.85	0.00	0.00	0.87	0.00	0.80	0.75	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.81	1.00	0.83	0.00	0.84	0.93

Classified Turn Movement Count || Passenger Vehicles (1-3)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Site 3 of 3

Lights Ferry Rd (South)
Lights Ferry Rd (North)
Gainesville St (West)
Gainesville St (East)

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.184589°, -83.929154°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Passenger Vehicles (1-3)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0700 - 0715	2	14	0	0	16	0	38	1	0	39	0	0	0	0	0	0	0	0	0	0	55
0715 - 0730	0	18	0	0	18	0	37	2	0	39	0	0	0	0	0	2	0	1	0	3	60
0730 - 0745	0	23	0	0	23	0	48	3	0	51	0	0	0	0	0	2	0	2	0	4	78
0745 - 0800	0	23	0	0	23	0	45	0	0	45	0	0	0	0	0	0	0	2	0	2	70
Hourly Total	2	78	0	0	80	0	168	6	0	174	0	0	0	0	0	4	0	5	0	9	263
0800 - 0815	2	18	0	0	20	0	37	0	0	37	0	0	0	0	0	1	0	1	0	2	59
0815 - 0830	3	20	0	0	23	0	35	1	0	36	0	0	0	0	0	3	0	0	0	3	62
0830 - 0845	3	22	0	0	25	0	29	2	0	31	0	0	0	0	0	3	1	2	0	6	62
0845 - 0900	0	27	0	0	27	0	43	0	0	43	0	0	0	0	0	2	0	0	0	2	72
Hourly Total	8	87	0	0	95	0	144	3	0	147	0	0	0	0	0	9	1	3	0	13	255
Grand Total	10	165	0	0	175	0	312	9	0	321	0	0	0	0	0	13	1	8	0	22	518
Approach %	5.71	94.29	0.00	0.00	-	0.00	97.20	2.80	0.00	-	0.00	0.00	0.00	0.00	-	59.09	4.55	36.36	0.00	-	
Intersection %	1.93	31.85	0.00	0.00	33.78	0.00	60.23	1.74	0.00	61.97	0.00	0.00	0.00	0.00	0.00	2.51	0.19	1.54	0.00	4.25	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Passenger Vehicles (1-3)

	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
TIME	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
1600 - 1615	3	59	0	0	62	0	51	2	0	53	0	0	0	0	0	1	1	1	0	3	118
1615 - 1630	5	55	0	0	60	0	36	1	0	37	0	0	0	0	0	3	0	0	0	3	100
1630 - 1645	7	47	0	0	54	0	40	1	0	41	0	0	0	0	0	2	0	4	0	6	101
1645 - 1700	6	57	0	0	63	0	55	1	0	56	0	0	0	0	0	3	1	2	0	6	125
Hourly Total	21	218	0	0	239	0	182	5	0	187	0	0	0	0	0	9	2	7	0	18	444
1700 - 1715	8	57	0	0	65	0	35	2	0	37	0	0	0	0	0	4	1	2	0	7	109
1715 - 1730	9	48	0	0	57	0	41	2	0	43	0	0	0	0	0	4	1	3	0	8	108
1730 - 1745	8	67	0	0	75	0	46	1	0	47	0	0	0	0	0	2	1	2	0	5	127
1745 - 1800	7	60	0	0	67	0	43	0	0	43	0	0	0	0	0	4	2	0	0	6	116
Hourly Total	32	232	0	0	264	0	165	5	0	170	0	0	0	0	0	14	5	7	0	26	460
Grand Total	53	450	0	0	503	0	347	10	0	357	0	0	0	0	0	23	7	14	0	44	904
Approach %	10.54	89.46	0.00	0.00	-	0.00	97.20	2.80	0.00	-	0.00	0.00	0.00	0.00	-	52.27	15.91	31.82	0.00	-	
Intersection %	5.86	49.78	0.00	0.00	55.64	0.00	38.38	1.11	0.00	39.49	0.00	0.00	0.00	0.00	0.00	2.54	0.77	1.55	0.00	4.87	

Classified Turn Movement Count || Single Unit Trucks (4-7)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

www.marrtraffic.com

Site 3 of 3

Lights Ferry Rd (South)
Lights Ferry Rd (North)
Gainesville St (West)
Gainesville St (East)

Date

Tuesday, May 17, 2022

Lat/Long

34.184589°, -83.929154°

Weather

Fair
74°F

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0700 - 0715	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
0730 - 0745	0	2	0	0	2	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	4
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	3	0	0	3	0	1	1	0	2	0	0	0	0	0	0	0	1	0	1	6
0800 - 0815	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	4	0	0	4	0	1	1	0	2	0	0	0	0	0	0	0	1	0	1	7
Approach %	0.00	100.00	0.00	0.00	-	0.00	50.00	50.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
Intersection %	0.00	57.14	0.00	0.00	57.14	0.00	14.29	14.29	0.00	28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	14.29	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Single Unit Trucks (4-7)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
1600 - 1615	0	2	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	3
1615 - 1630	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	3	0	0	3	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	4
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	3	0	0	3	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	5
Approach %	0.00	100.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	100.00	0.00	-	
Intersection %	0.00	60.00	0.00	0.00	60.00	0.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	20.00	

Classified Turn Movement Count || Combination Trucks (8-13)

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Site 3 of 3

Lights Ferry Rd (South)
Lights Ferry Rd (North)
Gainesville St (West)
Gainesville St (East)

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.184589°, -83.929154°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Approach %	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Combination Trucks (8-13)

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Classified Turn Movement Count || Bikes

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Site 3 of 3

Lights Ferry Rd (South)
Lights Ferry Rd (North)
Gainesville St (West)
Gainesville St (East)

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.184589°, -83.929154°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	-
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Bikes

TIME	Northbound					Southbound					Eastbound					Westbound					Int Total
	Lights Ferry Rd (South)					Lights Ferry Rd (North)					Gainesville St (West)					Gainesville St (East)					
	Left 3.1	Thru 3.2	Right 3.3	U-Turn 3.4	App Total	Left 3.5	Thru 3.6	Right 3.7	U-Turn 3.8	App Total	Left 3.9	Thru 3.10	Right 3.11	U-Turn 3.12	App Total	Left 3.13	Thru 3.14	Right 3.15	U-Turn 3.16	App Total	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Approach %	0.00	100.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	-	
Intersection %	0.00	100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Pedestrian Count || All vehicles

Flowery Branch, GA



Marr Traffic
DATA COLLECTION

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Site 3 of 3

Lights Ferry Rd (South)
Lights Ferry Rd (North)
Gainesville St (West)
Gainesville St (East)

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.184589°, -83.929154°

0700 - 0900 (Weekday 2h Session) (05-17-2022)

Pedestrians

	Northbound			Southbound			Eastbound			Westbound			
	Lights Ferry Rd (South)			Lights Ferry Rd (North)			Gainesville St (West)			Gainesville St (East)			
TIME	EB 3a	WB 3b	App Total	EB 3c	WB 3d	App Total	NB 3e	SB 3f	App Total	NB 3g	SB 3h	App Total	Int Total
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0
0715 - 0730	0	0	0	0	0	0	0	0	0	0	0	0	0
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0815	0	0	0	0	0	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0
0830 - 0845	0	0	0	0	0	0	0	0	0	0	0	0	0
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

1600 - 1800 (Weekday 2h Session) (05-17-2022)

Pedestrians

TIME	Northbound			Southbound			Eastbound			Westbound			App Total	Int Total
	Lights Ferry Rd (South)			Lights Ferry Rd (North)			Gainesville St (West)			Gainesville St (East)				
	EB	WB	App Total	EB	WB	App Total	NB	SB	App Total	NB	SB	App Total		
	3a	3b		3c	3d		3e	3f		3g	3h			
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	0	0	0	0	0	0	0	0	0	0	0	0	
1715 - 1730	0	0	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-	0.00	0.00	-		
Intersection %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

Start Date: 5/17/2022	Lights Ferry Rd (South)			Lights Ferry Rd (North)			Gainesville St (West)			Gainesville St (East)			Total
Time	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
15 Minute Totals													
12:00 AM - 12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM - 12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM - 12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM - 01:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 AM - 01:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 AM - 01:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 AM - 01:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 AM - 02:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 AM - 02:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 AM - 02:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 AM - 02:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 AM - 03:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 AM - 03:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 AM - 03:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 AM - 03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 AM - 04:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 AM - 04:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 AM - 04:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 AM - 04:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 AM - 05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 AM - 05:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 AM - 05:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 AM - 05:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 AM - 06:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 AM - 06:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 AM - 06:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 AM - 06:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 AM - 07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 AM - 07:15 AM	2	15	0	0	38	1	0	0	0	0	0	0	56
07:15 AM - 07:30 AM	0	18	0	0	37	2	0	0	0	2	0	2	61
07:30 AM - 07:45 AM	0	25	0	0	49	4	0	0	0	2	0	2	82
07:45 AM - 08:00 AM	0	23	0	0	45	0	0	0	0	0	0	2	70
08:00 AM - 08:15 AM	2	19	0	0	37	0	0	0	0	1	0	1	60
08:15 AM - 08:30 AM	3	20	0	0	35	1	0	0	0	3	0	0	62
08:30 AM - 08:45 AM	3	23	0	0	29	2	0	0	0	3	1	2	63
08:45 AM - 09:00 AM	0	27	0	0	43	0	0	0	0	2	0	0	72
09:00 AM - 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM - 09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM - 09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM - 10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM - 10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM - 10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM - 10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM - 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 01:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 PM - 01:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15 PM - 01:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30 PM - 01:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45 PM - 02:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 PM - 02:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15 PM - 02:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30 PM - 02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45 PM - 03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 PM - 03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM - 03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM - 03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM - 04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM - 04:15 PM	3	61	0	0	51	3	0	0	0	1	1	1	121
04:15 PM - 04:30 PM	5	57	0	0	36	1	0	0	0	3	0	0	102
04:30 PM - 04:45 PM	7	47	0	0	40	1	0	0	0	2	0	4	101
04:45 PM - 05:00 PM	6	57	0	0	55	1	0	0	0	3	1	2	125
05:00 PM - 05:15 PM	8	57	0	0	35	2	0	0	0	4	1	3	110
05:15 PM - 05:30 PM	9	48	0	0	41	2	0	0	0	4	1	3	108
05:30 PM - 05:45 PM	8	67	0	0	46	1	0	0	0	2	1	2	127
05:45 PM - 06:00 PM	7	60	0	0	43	0	0	0	0	4	2	0	116
06:00 PM - 06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM - 06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM - 06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM - 07:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 PM - 07:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 PM - 07:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 PM - 07:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 PM - 08:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 PM - 08:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 PM - 08:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 PM - 08:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 PM - 09:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 PM - 09:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 PM - 09:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 PM - 09:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45 PM - 10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM - 10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM - 10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM - 10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM - 11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM - 11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM - 11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM - 11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM - 12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0

Bi-Directional Class Count || NB EB 15min

Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.195548°, -83.921491°



[Click here for Map](#)

0000 - 2400 (24h Session) (05-17-2022)

NB EB 15min

Time	Northbound (Movement 4.1)													15min Total	60min Total
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13		
0000 - 0015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0015 - 0030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0030 - 0045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0045 - 0100	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
0100 - 0115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0115 - 0130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0130 - 0145	0	0	0	0	0	0	0	0	1	0	0	0	0	0	
0145 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0200 - 0215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
0215 - 0230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0230 - 0245	0	2	1	0	0	0	0	0	0	0	0	0	0	0	
0245 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0300 - 0315	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
0315 - 0330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0330 - 0345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0345 - 0400	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
0400 - 0415	0	2	0	0	0	0	0	0	0	0	0	0	0	0	8
0415 - 0430	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
0430 - 0445	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
0445 - 0500	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
0500 - 0515	0	2	1	0	0	0	0	0	0	0	0	0	0	0	33
0515 - 0530	0	4	1	0	0	0	0	0	0	0	0	0	0	0	
0530 - 0545	0	4	1	0	0	0	0	0	0	0	0	0	0	0	
0545 - 0600	0	8	3	2	0	0	0	0	0	0	0	0	0	0	
0600 - 0615	0	7	2	1	0	0	0	0	0	0	0	0	0	0	71
0615 - 0630	0	18	5	1	0	0	0	0	0	0	0	0	0	0	
0630 - 0645	1	10	1	0	0	1	0	0	0	0	0	0	0	0	
0645 - 0700	0	20	4	0	0	0	0	0	0	0	0	0	0	0	
0700 - 0715	0	7	3	0	0	0	0	0	1	0	0	0	0	0	36
0715 - 0730	0	7	3	0	0	0	0	0	0	0	0	0	0	0	
0730 - 0745	0	5	3	0	0	0	0	0	0	0	0	0	0	0	
0745 - 0800	0	5	2	0	0	0	0	0	0	0	0	0	0	0	
0800 - 0815	0	4	0	0	0	0	0	0	0	0	0	0	0	0	32
0815 - 0830	0	4	4	0	1	0	0	0	0	0	0	0	0	0	
0830 - 0845	0	7	3	0	0	0	0	0	1	0	0	0	0	0	
0845 - 0900	0	7	1	0	0	0	0	0	0	0	0	0	0	0	
0900 - 0915	0	5	5	0	0	0	0	0	0	0	0	0	0	0	44
0915 - 0930	0	8	4	0	0	0	0	0	0	0	0	0	0	0	
0930 - 0945	0	4	2	0	1	0	0	0	0	0	0	0	0	0	
0945 - 1000	0	13	0	1	1	0	0	0	0	0	0	0	0	0	
1000 - 1015	0	7	3	1	0	0	0	0	0	0	0	0	0	0	56
1015 - 1030	0	8	4	0	0	0	0	0	0	0	0	0	0	0	
1030 - 1045	0	7	3	1	1	0	0	0	0	0	0	0	0	0	
1045 - 1100	0	14	7	0	0	0	0	0	0	0	0	0	0	0	
1100 - 1115	0	13	5	0	0	0	0	0	0	0	0	0	0	0	53
1115 - 1130	0	6	4	0	0	0	0	0	0	0	0	0	0	0	
1130 - 1145	0	6	2	0	0	0	0	0	0	0	0	0	0	0	
1145 - 1200	0	12	4	0	1	0	0	0	0	0	0	0	0	0	
1200 - 1215	0	7	4	0	0	0	0	0	0	0	0	0	0	0	71
1215 - 1230	0	10	6	0	0	0	0	0	0	0	0	0	0	0	
1230 - 1245	0	15	6	0	0	0	0	0	0	0	0	0	0	0	
1245 - 1300	0	19	4	0	0	0	0	0	0	0	0	0	0	0	
1300 - 1315	0	10	3	0	0	0	0	0	0	0	0	0	0	0	67
1315 - 1330	1	10	2	1	0	0	0	0	0	0	0	0	0	0	
1330 - 1345	0	12	2	0	0	0	0	0	0	0	0	0	0	0	
1345 - 1400	0	17	9	0	0	0	0	0	0	0	0	0	0	0	
1400 - 1415	0	10	5	1	1	0	0	0	0	0	0	0	0	0	63
1415 - 1430	0	9	10	0	0	0	0	0	0	0	0	0	0	0	
1430 - 1445	0	10	3	0	0	0	0	0	0	0	0	0	0	0	
1445 - 1500	0	10	2	0	1	0	0	1	0	0	0	0	0	0	
1500 - 1515	0	11	8	0	0	0	0	0	0	0	0	0	0	0	77
1515 - 1530	0	9	3	0	1	0	0	0	0	0	0	0	0	0	
1530 - 1545	0	17	7	0	0	0	0	0	0	0	0	0	0	0	
1545 - 1600	0	19	2	0	0	0	0	0	0	0	0	0	0	0	
1600 - 1615	0	24	5	0	0	0	0	0	0	0	0	0	0	0	100
1615 - 1630	0	18	6	0	0	0	0	0	0	0	0	0	0	0	
1630 - 1645	0	15	5	0	0	0	0	0	0	0	0	0	0	0	
1645 - 1700	0	22	5	0	0	0	0	0	0	0	0	0	0	0	
1700 - 1715	0	15	3	0	0	0	0	0	0	0	0	0	0	0	78
1715 - 1730	0	13	5	0	0	0	0	0	0	0	0	0	0	0	
1730 - 1745	0	14	5	0	0	0	0	0	0	0	0	0	0	0	
1745 - 1800	0	20	3	0	0	0	0	0	0	0	0	0	0	0	
1800 - 1815	0	12	1	0	0	0	0	0	0	0	0	0	0	0	71
1815 - 1830	1	14	2	0	0	0	0	0	0	0	0	0	0	0	
1830 - 1845	0	21	4	0	0	0	0	0	0	0	0	0	0	0	
1845 - 1900	0	11	5	0	0	0	0	0	0	0	0	0	0	0	
1900 - 1915	1	16	2	0	0	0	0	0	0	0	0	0	0	0	47
1915 - 1930	0	7	2	0	0	0	0	0	0	0	0	0	0	0	
1930 - 1945	0	15	0	0	0	0	0	0	0	0	0	0	0	0	
1945 - 2000	0	3	1	0	0	0	0	0	0	0	0	0	0	0	
2000 - 2015	0	7	1	0	0	0	0	0	0	0	0	0	0	0	23
2015 - 2030	0	4	1	0	0	0	0	0	0	0	0	0	0	0	
2030 - 2045	1	4	0	0	0	0	0	0	0	0	0	0	0	0	
2045 - 2100	0	5	0	0	0	0	0	0	0	0	0	0	0	0	
2100 - 2115	0	4	1	0	0	0	0	0	0	0	0	0	0	0	17
2115 - 2130	0	4	0	0	0	0	0	0	0	0	0	0	0	0	
2130 - 2145	0	5	0	0	0	0	0	0	0	0	0	0	0	0	
2145 - 2200	0	3	0	0	0	0	0	0	0	0	0	0	0	0	
2200 - 2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2215 - 2230	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
2230 - 2245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2245 - 2300	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
2300 - 2315	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
2315 - 2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2330 - 2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2345 - 0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Session Total	5	715	217	9	8	1	0	1	3	0	0	0	0	959
Session Average	0.05	7.45	2.26	0.09	0.08	0.01	0.00	0.01	0.03	0.00	0.00	0.00	0.00	9.99
Session Percentage	0.52	74.56	22.63	0.94	0.83	0.10	0.00	0.10	0.31	0.00	0.00	0.00	0.00	

AM Peak Hour	0545 - 0645	0600 - 0700	0615 - 0715	0530 - 0630	0900 - 1000	0545 - 0645	-	-	0615 - 0715	-	-	-	-	0615 - 0715
AM Peak Volume	1	55	13	4	2	1	0	0	1	0	0	0	0	72

Noon Peak Hour	1230 - 1330	1215 - 1315	1345 - 1445	1000 - 1100	1400 - 1500	-	-	1400 - 1500	-	-	-	-	-	1330 - 1430
Noon Peak Volume	1	54	27	2	2	-	0	1	0	0	0	0	0	76

PM Peak Hour	1815 - 1915	1600 - 1700	1600 - 1700	-	1500 - 1600	-	-	-	-	-	-	-	-	1600 - 1700
PM Peak Volume	2	79	21	0	1	0	0	0	0	0	0	0	0	100

Bi-Directional Class Count || SB WB 15min

Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.195548°, -83.921491°

[Click here for Map](#)

0000 - 2400 (24h Session) (05-17-2022)

SB WB 15min

Time	Southbound (Movement 4.2)													15min Total	60min Total
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13		
0000 - 0015	0	2	0	0	0	0	0	0	0	0	0	0	0	2	2
0015 - 0030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0030 - 0045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0045 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0100 - 0115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0115 - 0130	0	1	0	0	0	0	0	0	1	0	0	0	0	2	
0130 - 0145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0145 - 0200	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0200 - 0215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
0215 - 0230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0230 - 0245	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0245 - 0300	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0300 - 0315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
0315 - 0330	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0330 - 0345	0	3	1	0	0	0	0	0	0	0	0	0	0	4	
0345 - 0400	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
0400 - 0415	0	1	0	0	0	0	0	0	0	0	0	0	0	1	14
0415 - 0430	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0430 - 0445	0	5	0	0	0	0	0	0	0	0	0	0	0	5	
0445 - 0500	0	6	0	0	0	0	0	0	0	0	0	0	0	6	
0500 - 0515	0	10	0	0	0	0	0	0	0	0	0	0	0	10	53
0515 - 0530	0	6	3	0	0	0	0	0	0	0	0	0	0	9	
0530 - 0545	0	14	6	0	0	0	0	0	0	0	0	0	0	20	
0545 - 0600	0	12	2	0	0	0	0	0	0	0	0	0	0	14	
0600 - 0615	0	10	3	0	1	1	0	0	0	0	0	0	0	15	83
0615 - 0630	0	20	2	1	0	1	0	0	1	0	0	0	0	25	
0630 - 0645	0	19	6	0	0	0	0	0	0	0	0	0	0	25	
0645 - 0700	0	14	4	0	0	0	0	0	0	0	0	0	0	18	
0700 - 0715	0	10	1	0	0	0	0	0	0	0	0	0	0	11	43
0715 - 0730	0	7	1	0	0	0	0	1	0	0	0	0	0	9	
0730 - 0745	0	8	3	0	0	0	0	0	0	0	0	0	0	11	
0745 - 0800	0	12	0	0	0	0	0	0	0	0	0	0	0	12	
0800 - 0815	1	12	2	0	0	0	0	0	0	0	0	0	0	15	67
0815 - 0830	1	12	1	0	0	0	0	0	0	0	0	0	0	14	
0830 - 0845	0	14	4	0	0	0	0	0	1	0	0	0	0	19	
0845 - 0900	0	12	6	0	1	0	0	0	0	0	0	0	0	19	
0900 - 0915	0	10	3	0	0	0	0	0	0	0	0	0	0	13	55
0915 - 0930	0	8	6	0	0	0	0	0	0	0	0	0	0	14	
0930 - 0945	0	6	2	0	0	1	0	0	0	0	0	0	0	9	
0945 - 1000	0	8	9	0	2	0	0	0	0	0	0	0	0	19	
1000 - 1015	0	18	5	0	0	0	0	0	0	0	0	0	0	23	83
1015 - 1030	0	15	3	0	1	0	0	0	0	0	0	0	0	19	
1030 - 1045	0	11	4	1	0	0	0	0	0	0	0	0	0	16	
1045 - 1100	0	18	7	0	0	0	0	0	0	0	0	0	0	25	
1100 - 1115	0	14	7	0	0	0	0	0	0	0	0	0	0	21	57
1115 - 1130	0	11	3	0	0	0	0	0	0	0	0	0	0	14	
1130 - 1145	0	7	3	0	0	0	0	0	0	0	0	0	0	10	
1145 - 1200	0	7	5	0	0	0	0	0	0	0	0	0	0	12	
1200 - 1215	0	6	6	0	0	0	0	0	0	0	0	0	0	12	63
1215 - 1230	0	8	2	0	0	0	0	0	0	0	0	0	0	10	
1230 - 1245	0	12	4	0	1	0	0	0	0	0	0	0	0	17	
1245 - 1300	0	15	7	0	2	0	0	0	0	0	0	0	0	24	
1300 - 1315	0	10	10	0	0	0	0	0	0	0	0	0	0	20	83
1315 - 1330	0	15	5	0	0	0	0	0	0	0	0	0	0	20	
1330 - 1345	0	16	2	3	0	0	0	0	0	0	0	0	0	21	
1345 - 1400	0	18	4	0	0	0	0	0	0	0	0	0	0	22	
1400 - 1415	0	10	6	0	1	0	0	0	0	0	0	0	0	17	92
1415 - 1430	1	19	6	0	0	0	0	0	0	0	0	0	0	26	
1430 - 1445	0	12	7	1	0	0	0	1	0	0	0	0	0	21	
1445 - 1500	0	20	7	1	0	0	0	0	0	0	0	0	0	28	
1500 - 1515	0	16	2	0	0	0	0	0	0	0	0	0	0	18	84
1515 - 1530	0	16	5	0	0	0	0	0	0	0	0	0	0	21	
1530 - 1545	0	19	3	0	0	0	0	0	0	0	0	0	0	22	
1545 - 1600	0	18	5	0	0	0	0	0	0	0	0	0	0	23	
1600 - 1615	0	15	5	0	0	0	0	0	0	0	0	0	0	20	89
1615 - 1630	0	19	2	0	1	0	0	0	0	0	0	0	0	22	
1630 - 1645	0	15	4	0	1	0	0	1	0	0	0	0	0	21	
1645 - 1700	1	22	3	0	0	0	0	0	0	0	0	0	0	26	
1700 - 1715	0	24	7	0	0	0	0	0	0	0	0	0	0	31	93
1715 - 1730	0	27	1	0	0	0	0	0	0	0	0	0	0	28	
1730 - 1745	0	13	3	0	0	0	0	0	0	0	0	0	0	16	
1745 - 1800	0	13	3	0	0	0	0	0	0	0	0	0	0	18	
1800 - 1815	0	15	2	0	0	0	0	0	0	0	0	0	0	17	53
1815 - 1830	0	9	5	0	0	0	0	0	0	0	0	0	0	14	
1830 - 1845	0	10	1	0	0	0	0	0	0	0	0	0	0	11	
1845 - 1900	0	9	2	0	0	0	0	0	0	0	0	0	0	11	
1900 - 1915	0	14	1	0	0	0	0	0	0	0	0	0	0	15	42
1915 - 1930	0	4	5	0	0	0	0	0	0	0	0	0	0	9	
1930 - 1945	0	8	2	0	0	0	0	0	0	0	0	0	0	10	
1945 - 2000	0	7	1	0	0	0	0	0	0	0	0	0	0	8	
2000 - 2015	0	8	0	0	0	0	0	0	0	0	0	0	0	8	34
2015 - 2030	0	7	2	0	0	0	0	0	0	0	0	0	0	9	
2030 - 2045	0	6	2	0	0	0	0	0	0	0	0	0	0	8	
2045 - 2100	0	8	1	0	0	0	0	0	0	0	0	0	0	9	
2100 - 2115	0	3	0	0	0	0	0	0	0	0	0	0	0	3	19
2115 - 2130	0	5	2	0	0	0	0	0	0	0	0	0	0	7	
2130 - 2145	0	7	1	0	0	0	0	0	0	0	0	0	0	8	
2145 - 2200	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2200 - 2215	0	1	0	0	0	0	0	0	0	0	0	0	0	1	8
2215 - 2230	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
2230 - 2245	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2245 - 2300	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
2300 - 2315	0	1	0	0	0	0	0	0	0	0	0	0	0	1	7
2315 - 2330	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2330 - 2345	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
2345 - 0000	0	2	0	0	0	0	0	0	0	0	0	0	0	2	

Session Total	4	867	240	7	11	3	0	3	3	0	0	0	0	1138
Session Average	0.04	9.03	2.50	0.07	0.11	0.03	0.00	0.03	0.03	0.00	0.00	0.00	0.00	11.85
Session Percentage	0.35	76.19	21.09	0.62	0.97	0.26	0.00	0.26	0.26	0.00	0.00	0.00	0.00	

AM Peak Hour	0730 - 0830	0600 - 0700	0915 - 1015	0530 - 0630	0930 - 1030	0530 - 0630	-	0630 - 0730	0530 - 0630	-	-	-	-	0600 - 0700
AM Peak Volume	2	63	22	1	3	2	0	1	1	0	0	0	0	83

Noon Peak Hour	1330 - 1430	1445 - 1545	1230 - 1330	1245 - 1345	1200 - 1300	-	-	1345 - 1445	-	-	-	-	-	1415 - 1515
Noon Peak Volume	1	71	26	3	3	0	0	1	0	0	0	0	0	93

PM Peak Hour	1600 - 1700	1630 - 1730	1515 - 1615	-	1545 - 1645	-	-	1545 - 1645	-	-	-	-	-	1630 - 1730
PM Peak Volume	1	88	18	0	2	0	0	1	0	0	0	0	0	106

Bi-Directional Class Count || Bi-Directional 15min

Flowery Branch, GA



Site 4

Gainesville St,
south of Park Haven Dr

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.195548°, -83.921491°

0000 - 2400 (24h Session) (05-17-2022)

Bi-Directional 15min

Time	Bi-Directional 15min													15min Total	60min Total
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13		
0000 - 0015	0	2	0	0	0	0	0	0	0	0	0	0	0	2	3
0015 - 0030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0030 - 0045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0045 - 0100	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0100 - 0115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0115 - 0130	0	1	0	0	0	0	0	0	1	0	0	0	0	2	
0130 - 0145	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
0145 - 0200	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0200 - 0215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
0215 - 0230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0230 - 0245	0	3	1	0	0	0	0	0	0	0	0	0	0	4	
0245 - 0300	0	2	0	0	0	0	0	0	0	0	0	0	0	2	
0300 - 0315	0	1	0	0	0	0	0	0	0	0	0	0	0	1	10
0315 - 0330	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
0330 - 0345	0	3	1	0	0	0	0	0	0	0	0	0	0	4	
0345 - 0400	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
0400 - 0415	0	3	0	0	0	0	0	0	0	0	0	0	0	3	22
0415 - 0430	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
0430 - 0445	0	7	0	0	0	0	0	0	0	0	0	0	0	7	
0445 - 0500	0	8	0	0	0	0	0	0	0	0	0	0	0	8	
0500 - 0515	0	12	1	0	0	0	0	0	0	0	0	0	0	13	86
0515 - 0530	0	14	7	0	0	0	0	0	0	0	0	0	0	21	
0530 - 0545	0	18	7	0	0	0	0	0	0	0	0	0	0	25	
0545 - 0600	0	20	5	2	0	0	0	0	0	0	0	0	0	27	
0600 - 0615	0	17	5	1	1	1	0	0	0	0	0	0	0	25	154
0615 - 0630	0	38	7	2	0	1	0	0	1	0	0	0	0	49	
0630 - 0645	1	29	7	0	0	1	0	0	0	0	0	0	0	38	
0645 - 0700	0	34	8	0	0	0	0	0	0	0	0	0	0	42	
0700 - 0715	0	17	4	0	0	0	0	0	1	0	0	0	0	22	79
0715 - 0730	0	14	4	0	0	0	0	1	0	0	0	0	0	19	
0730 - 0745	0	13	6	0	0	0	0	0	0	0	0	0	0	19	
0745 - 0800	0	17	2	0	0	0	0	0	0	0	0	0	0	19	
0800 - 0815	1	16	2	0	0	0	0	0	0	0	0	0	0	19	99
0815 - 0830	1	16	5	0	1	0	0	0	0	0	0	0	0	23	
0830 - 0845	0	21	7	0	0	0	0	0	2	0	0	0	0	30	
0845 - 0900	0	19	7	0	1	0	0	0	0	0	0	0	0	27	
0900 - 0915	0	15	8	0	0	0	0	0	0	0	0	0	0	23	99
0915 - 0930	0	16	10	0	0	0	0	0	0	0	0	0	0	26	
0930 - 0945	0	10	4	0	1	1	0	0	0	0	0	0	0	16	
0945 - 1000	0	21	9	1	3	0	0	0	0	0	0	0	0	34	
1000 - 1015	0	25	8	1	0	0	0	0	0	0	0	0	0	34	139
1015 - 1030	0	23	7	0	1	0	0	0	0	0	0	0	0	31	
1030 - 1045	0	18	7	2	1	0	0	0	0	0	0	0	0	28	
1045 - 1100	0	32	14	0	0	0	0	0	0	0	0	0	0	46	
1100 - 1115	0	27	12	0	0	0	0	0	0	0	0	0	0	39	110
1115 - 1130	0	17	7	0	0	0	0	0	0	0	0	0	0	24	
1130 - 1145	0	13	5	0	0	0	0	0	0	0	0	0	0	18	
1145 - 1200	0	19	9	0	1	0	0	0	0	0	0	0	0	29	
1200 - 1215	0	13	10	0	0	0	0	0	0	0	0	0	0	23	134
1215 - 1230	0	18	8	0	0	0	0	0	0	0	0	0	0	26	
1230 - 1245	0	27	10	0	1	0	0	0	0	0	0	0	0	38	
1245 - 1300	0	34	11	0	2	0	0	0	0	0	0	0	0	47	
1300 - 1315	0	20	13	0	0	0	0	0	0	0	0	0	0	33	150
1315 - 1330	1	25	7	1	0	0	0	0	0	0	0	0	0	34	
1330 - 1345	0	28	4	3	0	0	0	0	0	0	0	0	0	35	
1345 - 1400	0	35	13	0	0	0	0	0	0	0	0	0	0	48	
1400 - 1415	0	20	11	1	2	0	0	0	0	0	0	0	0	34	155
1415 - 1430	1	28	16	0	0	0	0	0	0	0	0	0	0	45	
1430 - 1445	0	22	10	1	0	0	0	1	0	0	0	0	0	34	
1445 - 1500	0	30	9	1	1	0	0	1	0	0	0	0	0	42	
1500 - 1515	0	27	10	0	0	0	0	0	0	0	0	0	0	37	161
1515 - 1530	0	25	8	0	1	0	0	0	0	0	0	0	0	34	
1530 - 1545	0	36	10	0	0	0	0	0	0	0	0	0	0	46	
1545 - 1600	0	37	7	0	0	0	0	0	0	0	0	0	0	44	
1600 - 1615	0	39	10	0	0	0	0	0	0	0	0	0	0	49	189
1615 - 1630	0	37	8	0	1	0	0	0	0	0	0	0	0	46	
1630 - 1645	0	30	9	0	1	0	0	1	0	0	0	0	0	41	
1645 - 1700	1	44	8	0	0	0	0	0	0	0	0	0	0	53	
1700 - 1715	0	39	10	0	0	0	0	0	0	0	0	0	0	49	171
1715 - 1730	0	40	6	0	0	0	0	0	0	0	0	0	0	46	
1730 - 1745	0	27	8	0	0	0	0	0	0	0	0	0	0	35	
1745 - 1800	0	33	8	0	0	0	0	0	0	0	0	0	0	41	
1800 - 1815	0	27	3	0	0	0	0	0	0	0	0	0	0	30	124
1815 - 1830	1	23	7	0	0	0	0	0	0	0	0	0	0	31	
1830 - 1845	0	31	5	0	0	0	0	0	0	0	0	0	0	36	
1845 - 1900	0	20	7	0	0	0	0	0	0	0	0	0	0	27	
1900 - 1915	1	30	3	0	0	0	0	0	0	0	0	0	0	34	89
1915 - 1930	0	11	7	0	0	0	0	0	0	0	0	0	0	18	
1930 - 1945	0	23	2	0	0	0	0	0	0	0	0	0	0	25	
1945 - 2000	0	10	2	0	0	0	0	0	0	0	0	0	0	12	
2000 - 2015	0	15	1	0	0	0	0	0	0	0	0	0	0	16	57
2015 - 2030	0	11	3	0	0	0	0	0	0	0	0	0	0	14	
2030 - 2045	1	10	2	0	0	0	0	0	0	0	0	0	0	13	
2045 - 2100	0	13	1	0	0	0	0	0	0	0	0	0	0	14	
2100 - 2115	0	7	0	0	0	0	0	0	0	0	0	0	0	7	36
2115 - 2130	0	9	3	0	0	0	0	0	0	0	0	0	0	12	
2130 - 2145	0	12	1	0	0	0	0	0	0	0	0	0	0	13	
2145 - 2200	0	4	0	0	0	0	0	0	0	0	0	0	0	4	
2200 - 2215	0	1	0	0	0	0	0	0	0	0	0	0	0	1	11
2215 - 2230	0	6	0	0	0	0	0	0	0	0	0	0	0	6	
2230 - 2245	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2245 - 2300	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
2300 - 2315	0	3	0	0	0	0	0	0	0	0	0	0	0	3	9
2315 - 2330	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2330 - 2345	0	3	0	0	0	0	0	0	0	0	0	0	0	3	
2345 - 0000	0	2	0	0	0	0	0	0	0	0	0	0	0	2	

Session Total	9	1582	457	16	19	4	0	4	6	0	0	0	0	2097
Session Average	0.09	16.48	4.76	0.17	0.20	0.04	0.00	0.04	0.06	0.00	0.00	0.00	0.00	21.84

Bi-Directional Class Count || Volume Summary 15min

Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.195548°, -83.921491°

0000 - 2400 (24h Session) (05-17-2022)

Volume Summary 15min

TIME	Volume Summary 15min		15min	60min
	NB	SB	Total	Total
0000 - 0015	0	2	2	
0015 - 0030	0	0	0	
0030 - 0045	0	0	0	
0045 - 0100	1	0	1	3
0100 - 0115	0	0	0	
0115 - 0130	0	2	2	
0130 - 0145	1	0	1	
0145 - 0200	0	1	1	4
0200 - 0215	0	0	0	
0215 - 0230	0	0	0	
0230 - 0245	3	1	4	
0245 - 0300	0	2	2	6
0300 - 0315	1	0	1	
0315 - 0330	0	1	1	
0330 - 0345	0	4	4	
0345 - 0400	1	3	4	10
0400 - 0415	2	1	3	
0415 - 0430	2	2	4	
0430 - 0445	2	5	7	
0445 - 0500	2	6	8	22
0500 - 0515	3	10	13	
0515 - 0530	12	9	21	
0530 - 0545	5	20	25	
0545 - 0600	13	14	27	86
0600 - 0615	10	15	25	
0615 - 0630	24	25	49	
0630 - 0645	13	25	38	
0645 - 0700	24	18	42	154
0700 - 0715	11	11	22	
0715 - 0730	10	9	19	
0730 - 0745	8	11	19	
0745 - 0800	7	12	19	79
0800 - 0815	4	15	19	
0815 - 0830	9	14	23	
0830 - 0845	11	19	30	
0845 - 0900	8	19	27	99
0900 - 0915	10	13	23	
0915 - 0930	12	14	26	
0930 - 0945	7	9	16	
0945 - 1000	15	19	34	99
1000 - 1015	11	23	34	
1015 - 1030	12	19	31	
1030 - 1045	12	16	28	
1045 - 1100	21	25	46	139
1100 - 1115	18	21	39	
1115 - 1130	10	14	24	
1130 - 1145	8	10	18	
1145 - 1200	17	12	29	110

Time	Volume Summary 15min		15min	60min
	NB	SB	Total	Total
1200 - 1215	11	12	23	
1215 - 1230	16	10	26	
1230 - 1245	21	17	38	
1245 - 1300	23	24	47	134
1300 - 1315	13	20	33	
1315 - 1330	14	20	34	
1330 - 1345	14	21	35	
1345 - 1400	26	22	48	150
1400 - 1415	17	17	34	
1415 - 1430	19	26	45	
1430 - 1445	13	21	34	
1445 - 1500	14	28	42	155
1500 - 1515	19	18	37	
1515 - 1530	13	21	34	
1530 - 1545	24	22	46	
1545 - 1600	21	23	44	161
1600 - 1615	29	20	49	
1615 - 1630	24	22	46	
1630 - 1645	20	21	41	
1645 - 1700	27	26	53	189
1700 - 1715	18	31	49	
1715 - 1730	18	28	46	
1730 - 1745	19	16	35	
1745 - 1800	23	18	41	171
1800 - 1815	13	17	30	
1815 - 1830	17	14	31	
1830 - 1845	25	11	36	
1845 - 1900	16	11	27	124
1900 - 1915	19	15	34	
1915 - 1930	9	9	18	
1930 - 1945	15	10	25	
1945 - 2000	4	8	12	89
2000 - 2015	8	8	16	
2015 - 2030	5	9	14	
2030 - 2045	5	8	13	
2045 - 2100	5	9	14	57
2100 - 2115	4	3	7	
2115 - 2130	5	7	12	
2130 - 2145	5	8	13	
2145 - 2200	3	1	4	36
2200 - 2215	0	1	1	
2215 - 2230	2	4	6	
2230 - 2245	0	1	1	
2245 - 2300	1	2	3	11
2300 - 2315	2	1	3	
2315 - 2330	0	1	1	
2330 - 2345	0	3	3	
2345 - 0000	0	2	2	9

Session Total	959	1138	2097
Session Average	9.99	11.85	21.84
Session Percentage	45.73	54.27	

Bi-Directional Class Count || NB EB 60min

Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.195548°, -83.921491°

0000 - 2400 (24h Session) (05-17-2022)

NB EB 60min

TIME	Northbound (Movement 4.1)													Total
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	
0000 - 0100	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0100 - 0200	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0200 - 0300	0	2	1	0	0	0	0	0	0	0	0	0	0	3
0300 - 0400	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0400 - 0500	0	8	0	0	0	0	0	0	0	0	0	0	0	8
0500 - 0600	0	22	9	2	0	0	0	0	0	0	0	0	0	33
0600 - 0700	1	55	12	2	0	1	0	0	0	0	0	0	0	71
0700 - 0800	0	24	11	0	0	0	0	0	1	0	0	0	0	36
0800 - 0900	0	22	8	0	1	0	0	0	1	0	0	0	0	32
0900 - 1000	0	30	11	1	2	0	0	0	0	0	0	0	0	44
1000 - 1100	0	36	17	2	1	0	0	0	0	0	0	0	0	56
1100 - 1200	0	37	15	0	1	0	0	0	0	0	0	0	0	53
1200 - 1300	0	51	20	0	0	0	0	0	0	0	0	0	0	71
1300 - 1400	1	49	16	1	0	0	0	0	0	0	0	0	0	67
1400 - 1500	0	39	20	1	2	0	0	1	0	0	0	0	0	63
1500 - 1600	0	56	20	0	1	0	0	0	0	0	0	0	0	77
1600 - 1700	0	79	21	0	0	0	0	0	0	0	0	0	0	100
1700 - 1800	0	62	16	0	0	0	0	0	0	0	0	0	0	78
1800 - 1900	1	58	12	0	0	0	0	0	0	0	0	0	0	71
1900 - 2000	1	41	5	0	0	0	0	0	0	0	0	0	0	47
2000 - 2100	1	20	2	0	0	0	0	0	0	0	0	0	0	23
2100 - 2200	0	16	1	0	0	0	0	0	0	0	0	0	0	17
2200 - 2300	0	3	0	0	0	0	0	0	0	0	0	0	0	3
2300 - 2400	0	2	0	0	0	0	0	0	0	0	0	0	0	2
Session Total	5	715	217	9	8	1	0	1	3	0	0	0	0	959
Session Average	0.21	29.79	9.04	0.38	0.33	0.04	0.00	0.04	0.13	0.00	0.00	0.00	0.00	39.96
Session Percentage	0.52	74.56	22.63	0.94	0.83	0.10	0.00	0.10	0.31	0.00	0.00	0.00	0.00	
AM Peak Hour	0600 - 0700	0600 - 0700	0600 - 0700	0500 - 0600	0900 - 1000	0600 - 0700	-	-	0700 - 0800	-	-	-	-	0600 - 0700
AM Peak Volume	1	55	12	2	2	1	0	0	1	0	0	0	0	71
Noon Peak Hour	1300 - 1400	1200 - 1300	1200 - 1300	1000 - 1100	1400 - 1500	-	-	1400 - 1500	-	-	-	-	-	1200 - 1300
Noon Peak Volume	1	51	20	2	2	0	0	1	0	0	0	0	0	71
PM Peak Hour	1800 - 1900	1600 - 1700	1600 - 1700	-	1500 - 1600	-	-	-	-	-	-	-	-	1600 - 1700
PM Peak Volume	1	79	21	0	1	0	0	0	0	0	0	0	0	100

Bi-Directional Class Count || SB WB 60min

Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.195548°, -83.921491°

0000 - 2400 (24h Session) (05-17-2022)

SB WB 60min

Southbound (Movement 4.2)														
TIME	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	Total
0000 - 0100	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0100 - 0200	0	2	0	0	0	0	0	0	1	0	0	0	0	3
0200 - 0300	0	3	0	0	0	0	0	0	0	0	0	0	0	3
0300 - 0400	0	7	1	0	0	0	0	0	0	0	0	0	0	8
0400 - 0500	0	14	0	0	0	0	0	0	0	0	0	0	0	14
0500 - 0600	0	42	11	0	0	0	0	0	0	0	0	0	0	53
0600 - 0700	0	63	15	1	1	2	0	0	1	0	0	0	0	83
0700 - 0800	0	37	5	0	0	0	0	1	0	0	0	0	0	43
0800 - 0900	2	50	13	0	1	0	0	0	1	0	0	0	0	67
0900 - 1000	0	32	20	0	2	1	0	0	0	0	0	0	0	55
1000 - 1100	0	62	19	1	1	0	0	0	0	0	0	0	0	83
1100 - 1200	0	39	18	0	0	0	0	0	0	0	0	0	0	57
1200 - 1300	0	41	19	0	3	0	0	0	0	0	0	0	0	63
1300 - 1400	0	59	21	3	0	0	0	0	0	0	0	0	0	83
1400 - 1500	1	61	26	2	1	0	0	1	0	0	0	0	0	92
1500 - 1600	0	69	15	0	0	0	0	0	0	0	0	0	0	84
1600 - 1700	1	71	14	0	2	0	0	1	0	0	0	0	0	89
1700 - 1800	0	77	16	0	0	0	0	0	0	0	0	0	0	93
1800 - 1900	0	43	10	0	0	0	0	0	0	0	0	0	0	53
1900 - 2000	0	33	9	0	0	0	0	0	0	0	0	0	0	42
2000 - 2100	0	29	5	0	0	0	0	0	0	0	0	0	0	34
2100 - 2200	0	16	3	0	0	0	0	0	0	0	0	0	0	19
2200 - 2300	0	8	0	0	0	0	0	0	0	0	0	0	0	8
2300 - 2400	0	7	0	0	0	0	0	0	0	0	0	0	0	7
Session Total	4	867	240	7	11	3	0	3	3	0	0	0	0	1138
Session Average	0.17	36.13	10.00	0.29	0.46	0.13	0.00	0.13	0.13	0.00	0.00	0.00	0.00	47.42
Session Percentage	0.35	76.19	21.09	0.62	0.97	0.26	0.00	0.26	0.26	0.00	0.00	0.00	0.00	

AM Peak Hour	0800 - 0900	0600 - 0700	0900 - 1000	0600 - 0700	0900 - 1000	0600 - 0700	-	0700 - 0800	0600 - 0700	-	-	-	-	0600 - 0700
AM Peak Volume	2	63	20	1	2	2	0	1	1	0	0	0	0	83

Noon Peak Hour	1400 - 1500	1000 - 1100	1400 - 1500	1300 - 1400	1200 - 1300	-	-	1400 - 1500	-	-	-	-	-	1400 - 1500
Noon Peak Volume	1	62	26	3	3	0	0	1	0	0	0	0	0	92

PM Peak Hour	1600 - 1700	1700 - 1800	1700 - 1800	-	1600 - 1700	-	-	1600 - 1700	-	-	-	-	-	1700 - 1800
PM Peak Volume	1	77	16	0	2	0	0	1	0	0	0	0	0	93

Bi-Directional Class Count || Bi-Directional 60min

Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.195548°, -83.921491°

0000 - 2400 (24h Session) (05-17-2022)

Bi-Directional 60min

Bi-Directional 60min														Total
TIME	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13	
0000 - 0100	0	3	0	0	0	0	0	0	0	0	0	0	0	3
0100 - 0200	0	2	0	0	0	0	0	0	2	0	0	0	0	4
0200 - 0300	0	5	1	0	0	0	0	0	0	0	0	0	0	6
0300 - 0400	0	9	1	0	0	0	0	0	0	0	0	0	0	10
0400 - 0500	0	22	0	0	0	0	0	0	0	0	0	0	0	22
0500 - 0600	0	64	20	2	0	0	0	0	0	0	0	0	0	86
0600 - 0700	1	118	27	3	1	3	0	0	1	0	0	0	0	154
0700 - 0800	0	61	16	0	0	0	0	1	1	0	0	0	0	79
0800 - 0900	2	72	21	0	2	0	0	0	2	0	0	0	0	99
0900 - 1000	0	62	31	1	4	1	0	0	0	0	0	0	0	99
1000 - 1100	0	98	36	3	2	0	0	0	0	0	0	0	0	139
1100 - 1200	0	76	33	0	1	0	0	0	0	0	0	0	0	110
1200 - 1300	0	92	39	0	3	0	0	0	0	0	0	0	0	134
1300 - 1400	1	108	37	4	0	0	0	0	0	0	0	0	0	150
1400 - 1500	1	100	46	3	3	0	0	2	0	0	0	0	0	155
1500 - 1600	0	125	35	0	1	0	0	0	0	0	0	0	0	161
1600 - 1700	1	150	35	0	2	0	0	1	0	0	0	0	0	189
1700 - 1800	0	139	32	0	0	0	0	0	0	0	0	0	0	171
1800 - 1900	1	101	22	0	0	0	0	0	0	0	0	0	0	124
1900 - 2000	1	74	14	0	0	0	0	0	0	0	0	0	0	89
2000 - 2100	1	49	7	0	0	0	0	0	0	0	0	0	0	57
2100 - 2200	0	32	4	0	0	0	0	0	0	0	0	0	0	36
2200 - 2300	0	11	0	0	0	0	0	0	0	0	0	0	0	11
2300 - 2400	0	9	0	0	0	0	0	0	0	0	0	0	0	9

Session Total	9	1582	457	16	19	4	0	4	6	0	0	0	0	2097
Session Average	0.38	65.92	19.04	0.67	0.79	0.17	0.00	0.17	0.25	0.00	0.00	0.00	0.00	87.38
Session Percentage	0.43	75.44	21.79	0.76	0.91	0.19	0.00	0.19	0.29	0.00	0.00	0.00	0.00	

AM Peak Hour	0800 - 0900	0600 - 0700	0900 - 1000	0600 - 0700	0900 - 1000	0600 - 0700	-	0700 - 0800	0800 - 0900	-	-	-	-	0600 - 0700
AM Peak Volume	2	118	31	3	4	3	0	1	2	0	0	0	0	154

Noon Peak Hour	1300 - 1400	1300 - 1400	1400 - 1500	1300 - 1400	1200 - 1300	-	-	1400 - 1500	-	-	-	-	-	1400 - 1500
Noon Peak Volume	1	108	46	4	3	0	0	2	0	0	0	0	0	155

PM Peak Hour	1600 - 1700	1600 - 1700	1500 - 1600	-	1600 - 1700	-	-	1600 - 1700	-	-	-	-	-	1600 - 1700
PM Peak Volume	1	150	35	0	2	0	0	1	0	0	0	0	0	189

Bi-Directional Class Count || Volume Summary 60min

Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Date

Tuesday, May 17, 2022

Weather

Fair
74°F

Lat/Long

34.195548°, -83.921491°

0000 - 2400 (24h Session) (05-17-2022)

Volume Summary 60min

Volume Summary 60min			
TIME	NB	SB	Total
0000 - 0100	1	2	3
0100 - 0200	1	3	4
0200 - 0300	3	3	6
0300 - 0400	2	8	10
0400 - 0500	8	14	22
0500 - 0600	33	53	86
0600 - 0700	71	83	154
0700 - 0800	36	43	79
0800 - 0900	32	67	99
0900 - 1000	44	55	99
1000 - 1100	56	83	139
1100 - 1200	53	57	110

Session Total	959	1138	2097
Session Average	39.96	47.42	87.38
Session Percentage	45.73	54.27	

Volume Summary 60min			
Time	NB	SB	Total
1200 - 1300	71	63	134
1300 - 1400	67	83	150
1400 - 1500	63	92	155
1500 - 1600	77	84	161
1600 - 1700	100	89	189
1700 - 1800	78	93	171
1800 - 1900	71	53	124
1900 - 2000	47	42	89
2000 - 2100	23	34	57
2100 - 2200	17	19	36
2200 - 2300	3	8	11
2300 - 2400	2	7	9

Bi-Directional Class Count | Graphical Analysis NB EB

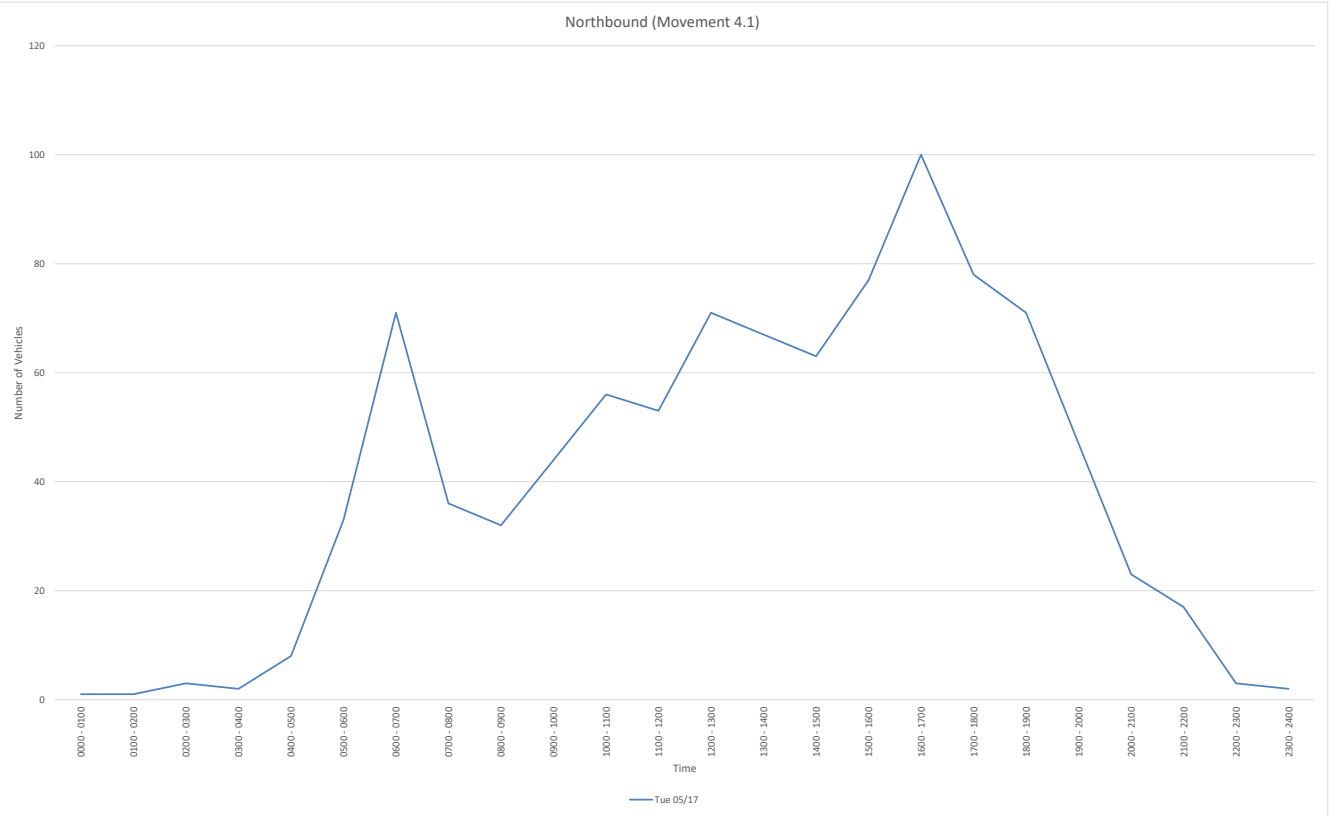
Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Lat/Long
34.195548°, -83.921491°

0000 - 2400 (Weekday 24h Session)
Graphical Analysis NB EB



Bi-Directional Class Count | Graphical Analysis SB WB

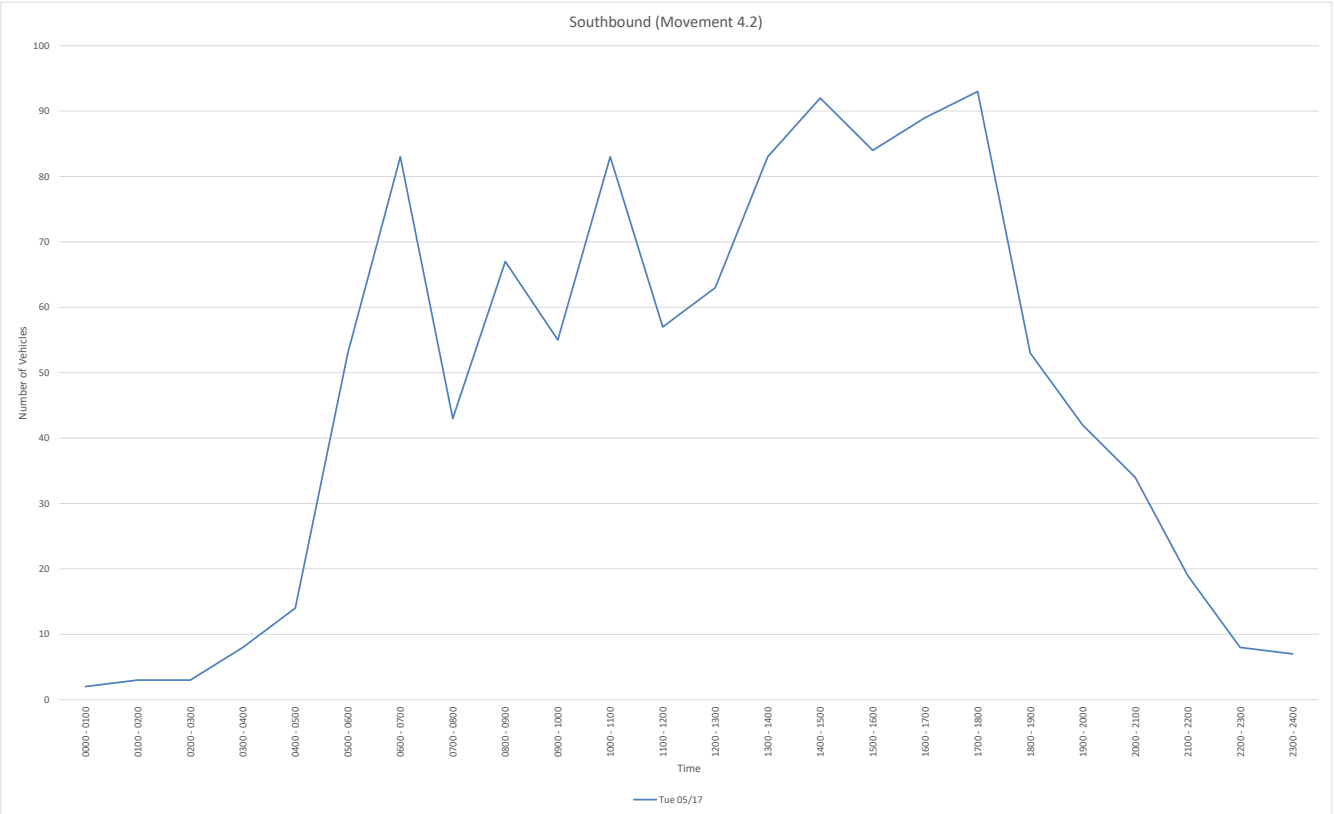
Flowery Branch, GA

Site 4

Gainesville St,
south of Park Haven Dr

Lat/Long
34.195548°, -83.921491°

0000 - 2400 (Weekday 24h Session)
Graphical Analysis SB WB



NB

File Name:

Start Date: 5/17/2022

Start Time: 0

Site Code: 4

Station ID: 1

Location 1: Gainesville St, south of Park Haven Dr

Location 2:

Date	Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13
5/17/2022	12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:30 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:30 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:15 AM	0	8	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:30 AM	0	4	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:45 AM	0	8	3	2	0	0	0	0	0	0	0	0	0
5/17/2022	6:00 AM	0	7	2	1	0	0	0	0	0	0	0	0	0
5/17/2022	6:15 AM	0	18	5	1	0	0	0	0	0	0	0	0	0
5/17/2022	6:30 AM	1	10	1	0	0	1	0	0	0	0	0	0	0
5/17/2022	6:45 AM	0	20	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:00 AM	0	7	3	0	0	0	0	0	1	0	0	0	0
5/17/2022	7:15 AM	0	7	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:30 AM	0	5	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:45 AM	0	5	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:00 AM	0	4	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:15 AM	0	4	4	0	1	0	0	0	0	0	0	0	0
5/17/2022	8:30 AM	0	7	3	0	0	0	0	0	1	0	0	0	0
5/17/2022	8:45 AM	0	7	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:00 AM	0	5	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:15 AM	0	8	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:30 AM	0	4	2	0	1	0	0	0	0	0	0	0	0
5/17/2022	9:45 AM	0	13	0	1	1	0	0	0	0	0	0	0	0
5/17/2022	10:00 AM	0	7	3	1	0	0	0	0	0	0	0	0	0
5/17/2022	10:15 AM	0	8	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:30 AM	0	7	3	1	1	0	0	0	0	0	0	0	0
5/17/2022	10:45 AM	0	14	7	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:00 AM	0	13	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:15 AM	0	6	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:30 AM	0	6	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:45 AM	0	12	4	0	1	0	0	0	0	0	0	0	0
5/17/2022	12:00 PM	0	7	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:15 PM	0	10	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:30 PM	0	15	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:45 PM	0	19	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:00 PM	0	10	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:15 PM	1	10	2	1	0	0	0	0	0	0	0	0	0
5/17/2022	1:30 PM	0	12	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:45 PM	0	17	9	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:00 PM	0	10	5	1	1	0	0	0	0	0	0	0	0
5/17/2022	2:15 PM	0	9	10	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:30 PM	0	10	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:45 PM	0	10	2	0	1	0	0	1	0	0	0	0	0
5/17/2022	3:00 PM	0	11	8	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:15 PM	0	9	3	0	1	0	0	0	0	0	0	0	0
5/17/2022	3:30 PM	0	17	7	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:45 PM	0	19	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:00 PM	0	24	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:15 PM	0	18	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:30 PM	0	15	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:45 PM	0	22	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:00 PM	0	15	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:15 PM	0	13	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:30 PM	0	14	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:45 PM	0	20	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:00 PM	0	12	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:15 PM	1	14	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:30 PM	0	21	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:45 PM	0	11	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:00 PM	1	16	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:15 PM	0	7	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:30 PM	0	15	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:45 PM	0	3	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:00 PM	0	7	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:15 PM	0	4	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:30 PM	1	4	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:45 PM	0	5	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:00 PM	0	4	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:15 PM	0	4	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:30 PM	0	5	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:15 PM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

SB

File Name:

Start Date: 5/17/2022

Start Time: 0

Site Code: 4

Station ID: 1

Location 1: Gainesville St, south of Park Haven Dr

Location 2:

Date	Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13
5/17/2022	12:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:15 AM	0	1	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:30 AM	0	3	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:45 AM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:30 AM	0	5	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:45 AM	0	6	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:00 AM	0	10	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:15 AM	0	6	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:30 AM	0	14	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:45 AM	0	12	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:00 AM	0	10	3	0	1	1	0	0	0	0	0	0	0
5/17/2022	6:15 AM	0	20	2	1	0	1	0	0	1	0	0	0	0
5/17/2022	6:30 AM	0	19	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:45 AM	0	14	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:00 AM	0	10	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:15 AM	0	7	1	0	0	0	0	1	0	0	0	0	0
5/17/2022	7:30 AM	0	8	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:45 AM	0	12	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:00 AM	1	12	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:15 AM	1	12	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:30 AM	0	14	4	0	0	0	0	0	1	0	0	0	0
5/17/2022	8:45 AM	0	12	6	0	1	0	0	0	0	0	0	0	0
5/17/2022	9:00 AM	0	10	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:15 AM	0	8	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:30 AM	0	6	2	0	0	1	0	0	0	0	0	0	0
5/17/2022	9:45 AM	0	8	9	0	2	0	0	0	0	0	0	0	0
5/17/2022	10:00 AM	0	18	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:15 AM	0	15	3	0	1	0	0	0	0	0	0	0	0
5/17/2022	10:30 AM	0	11	4	1	0	0	0	0	0	0	0	0	0
5/17/2022	10:45 AM	0	18	7	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:00 AM	0	14	7	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:15 AM	0	11	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:30 AM	0	7	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:45 AM	0	7	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:00 PM	0	6	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:15 PM	0	8	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:30 PM	0	12	4	0	1	0	0	0	0	0	0	0	0
5/17/2022	12:45 PM	0	15	7	0	2	0	0	0	0	0	0	0	0
5/17/2022	1:00 PM	0	10	10	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:15 PM	0	15	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:30 PM	0	16	2	3	0	0	0	0	0	0	0	0	0
5/17/2022	1:45 PM	0	18	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:00 PM	0	10	6	0	1	0	0	0	0	0	0	0	0
5/17/2022	2:15 PM	1	19	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:30 PM	0	12	7	1	0	0	0	1	0	0	0	0	0
5/17/2022	2:45 PM	0	20	7	1	0	0	0	0	0	0	0	0	0
5/17/2022	3:00 PM	0	16	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:15 PM	0	16	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:30 PM	0	19	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:45 PM	0	18	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:00 PM	0	15	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:15 PM	0	19	2	0	1	0	0	0	0	0	0	0	0
5/17/2022	4:30 PM	0	15	4	0	1	0	0	1	0	0	0	0	0
5/17/2022	4:45 PM	1	22	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:00 PM	0	24	7	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:15 PM	0	27	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:30 PM	0	13	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:45 PM	0	13	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:00 PM	0	15	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:15 PM	0	9	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:30 PM	0	10	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:45 PM	0	9	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:00 PM	0	14	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:15 PM	0	4	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:30 PM	0	8	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:45 PM	0	7	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:00 PM	0	8	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:15 PM	0	7	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:30 PM	0	6	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:45 PM	0	8	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:15 PM	0	5	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:30 PM	0	7	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:15 PM	0	4	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:30 PM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0

NB

File Name:

Start Date: 5/17/2022

Start Time: 0

Site Code: 4

Station ID: 1

Location 1: Gainesville St, south of Park Haven Dr

Location 2:

Date	Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13
5/17/2022	12:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:45 AM	0	1	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:45 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:00 AM	0	2	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:15 AM	0	3	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:30 AM	0	3	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:30 AM	0	5	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:45 AM	0	7	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:00 AM	0	8	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:15 AM	0	8	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:30 AM	0	14	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:45 AM	0	16	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:00 AM	0	22	9	2	0	0	0	0	0	0	0	0	0
5/17/2022	5:15 AM	0	27	10	3	0	0	0	0	0	0	0	0	0
5/17/2022	5:30 AM	0	37	11	4	0	0	0	0	0	0	0	0	0
5/17/2022	5:45 AM	1	43	11	4	0	1	0	0	0	0	0	0	0
5/17/2022	6:00 AM	1	55	12	2	0	1	0	0	0	0	0	0	0
5/17/2022	6:15 AM	1	55	13	1	0	1	0	0	1	0	0	0	0
5/17/2022	6:30 AM	1	44	11	0	0	1	0	0	1	0	0	0	0
5/17/2022	6:45 AM	0	39	13	0	0	0	0	0	1	0	0	0	0
5/17/2022	7:00 AM	0	24	11	0	0	0	0	0	1	0	0	0	0
5/17/2022	7:15 AM	0	21	8	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:30 AM	0	18	9	0	1	0	0	0	0	0	0	0	0
5/17/2022	7:45 AM	0	20	9	0	1	0	0	0	1	0	0	0	0
5/17/2022	8:00 AM	0	22	8	0	1	0	0	0	1	0	0	0	0
5/17/2022	8:15 AM	0	23	13	0	1	0	0	0	1	0	0	0	0
5/17/2022	8:30 AM	0	27	13	0	0	0	0	0	1	0	0	0	0
5/17/2022	8:45 AM	0	24	12	0	1	0	0	0	0	0	0	0	0
5/17/2022	9:00 AM	0	30	11	1	2	0	0	0	0	0	0	0	0
5/17/2022	9:15 AM	0	32	9	2	2	0	0	0	0	0	0	0	0
5/17/2022	9:30 AM	0	32	9	2	2	0	0	0	0	0	0	0	0
5/17/2022	9:45 AM	0	35	10	3	2	0	0	0	0	0	0	0	0
5/17/2022	10:00 AM	0	36	17	2	1	0	0	0	0	0	0	0	0
5/17/2022	10:15 AM	0	42	19	1	1	0	0	0	0	0	0	0	0
5/17/2022	10:30 AM	0	40	19	1	1	0	0	0	0	0	0	0	0
5/17/2022	10:45 AM	0	39	18	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:00 AM	0	37	15	0	1	0	0	0	0	0	0	0	0
5/17/2022	11:15 AM	0	31	14	0	1	0	0	0	0	0	0	0	0
5/17/2022	11:30 AM	0	35	16	0	1	0	0	0	0	0	0	0	0
5/17/2022	11:45 AM	0	44	20	0	1	0	0	0	0	0	0	0	0
5/17/2022	12:00 PM	0	51	20	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:15 PM	0	54	19	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:30 PM	1	54	15	1	0	0	0	0	0	0	0	0	0
5/17/2022	12:45 PM	1	51	11	1	0	0	0	0	0	0	0	0	0
5/17/2022	1:00 PM	1	49	16	1	0	0	0	0	0	0	0	0	0
5/17/2022	1:15 PM	1	49	18	2	1	0	0	0	0	0	0	0	0
5/17/2022	1:30 PM	0	48	26	1	1	0	0	0	0	0	0	0	0
5/17/2022	1:45 PM	0	46	27	1	1	0	0	0	0	0	0	0	0
5/17/2022	2:00 PM	0	39	20	1	2	0	0	1	0	0	0	0	0
5/17/2022	2:15 PM	0	40	23	0	1	0	0	1	0	0	0	0	0
5/17/2022	2:30 PM	0	40	16	0	2	0	0	1	0	0	0	0	0
5/17/2022	2:45 PM	0	47	20	0	2	0	0	1	0	0	0	0	0
5/17/2022	3:00 PM	0	56	20	0	1	0	0	0	0	0	0	0	0
5/17/2022	3:15 PM	0	69	17	0	1	0	0	0	0	0	0	0	0
5/17/2022	3:30 PM	0	78	20	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:45 PM	0	76	18	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:00 PM	0	79	21	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:15 PM	0	70	19	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:30 PM	0	65	18	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:45 PM	0	64	18	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:00 PM	0	62	16	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:15 PM	0	59	14	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:30 PM	1	60	11	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:45 PM	1	67	10	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:00 PM	1	58	12	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:15 PM	2	62	13	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:30 PM	1	55	13	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:45 PM	1	49	9	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:00 PM	1	41	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:15 PM	0	32	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:30 PM	0	29	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:45 PM	1	18	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:00 PM	1	20	2	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:15 PM	1	17	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:30 PM	1	17	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:45 PM	0	18	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:00 PM	0	16	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:15 PM	0	12	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:30 PM	0	10	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:45 PM	0	5	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:00 PM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:15 PM	0	5	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:30 PM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:45 PM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

SB

File Name:

Start Date: 5/17/2022

Start Time: 0

Site Code: 4

Station ID: 1

Location 1: Gainesville St, south of Park Haven Dr

Location 2:

Date	Time	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12	Class 13
5/17/2022	12:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	12:30 AM	0	1	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	12:45 AM	0	1	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:00 AM	0	2	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:15 AM	0	2	0	0	0	0	0	0	1	0	0	0	0
5/17/2022	1:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	1:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:30 AM	0	4	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	2:45 AM	0	6	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:00 AM	0	7	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:15 AM	0	8	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:30 AM	0	9	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:45 AM	0	11	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:00 AM	0	14	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:15 AM	0	23	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:30 AM	0	27	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	4:45 AM	0	36	9	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:00 AM	0	42	11	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:15 AM	0	42	14	0	1	1	0	0	0	0	0	0	0
5/17/2022	5:30 AM	0	56	13	1	1	2	0	0	1	0	0	0	0
5/17/2022	5:45 AM	0	61	13	1	1	2	0	0	1	0	0	0	0
5/17/2022	6:00 AM	0	63	15	1	1	2	0	0	1	0	0	0	0
5/17/2022	6:15 AM	0	63	13	1	0	1	0	0	1	0	0	0	0
5/17/2022	6:30 AM	0	50	12	0	0	0	0	1	0	0	0	0	0
5/17/2022	6:45 AM	0	39	9	0	0	0	0	1	0	0	0	0	0
5/17/2022	7:00 AM	0	37	5	0	0	0	0	1	0	0	0	0	0
5/17/2022	7:15 AM	1	39	6	0	0	0	0	1	0	0	0	0	0
5/17/2022	7:30 AM	2	44	6	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:45 AM	2	50	7	0	0	0	0	0	1	0	0	0	0
5/17/2022	8:00 AM	2	50	13	0	1	0	0	0	1	0	0	0	0
5/17/2022	8:15 AM	1	48	14	0	1	0	0	0	1	0	0	0	0
5/17/2022	8:30 AM	0	44	19	0	1	0	0	0	1	0	0	0	0
5/17/2022	8:45 AM	0	36	17	0	1	1	0	0	0	0	0	0	0
5/17/2022	9:00 AM	0	32	20	0	2	1	0	0	0	0	0	0	0
5/17/2022	9:15 AM	0	40	22	0	2	1	0	0	0	0	0	0	0
5/17/2022	9:30 AM	0	47	19	0	3	1	0	0	0	0	0	0	0
5/17/2022	9:45 AM	0	52	21	1	3	0	0	0	0	0	0	0	0
5/17/2022	10:00 AM	0	62	19	1	1	0	0	0	0	0	0	0	0
5/17/2022	10:15 AM	0	58	21	1	1	0	0	0	0	0	0	0	0
5/17/2022	10:30 AM	0	54	21	1	0	0	0	0	0	0	0	0	0
5/17/2022	10:45 AM	0	50	20	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:00 AM	0	39	18	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:15 AM	0	31	17	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:30 AM	0	28	16	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:45 AM	0	33	17	0	1	0	0	0	0	0	0	0	0
5/17/2022	12:00 PM	0	41	19	0	3	0	0	0	0	0	0	0	0
5/17/2022	12:15 PM	0	45	23	0	3	0	0	0	0	0	0	0	0
5/17/2022	12:30 PM	0	52	26	0	3	0	0	0	0	0	0	0	0
5/17/2022	12:45 PM	0	56	24	3	2	0	0	0	0	0	0	0	0
5/17/2022	1:00 PM	0	59	21	3	0	0	0	0	0	0	0	0	0
5/17/2022	1:15 PM	0	59	17	3	1	0	0	0	0	0	0	0	0
5/17/2022	1:30 PM	1	63	18	3	1	0	0	0	0	0	0	0	0
5/17/2022	1:45 PM	1	59	23	1	1	0	0	1	0	0	0	0	0
5/17/2022	2:00 PM	1	61	26	2	1	0	0	1	0	0	0	0	0
5/17/2022	2:15 PM	1	67	22	2	0	0	0	1	0	0	0	0	0
5/17/2022	2:30 PM	0	64	21	2	0	0	0	1	0	0	0	0	0
5/17/2022	2:45 PM	0	71	17	1	0	0	0	0	0	0	0	0	0
5/17/2022	3:00 PM	0	69	15	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:15 PM	0	68	18	0	0	0	0	0	0	0	0	0	0
5/17/2022	3:30 PM	0	71	15	0	1	0	0	0	0	0	0	0	0
5/17/2022	3:45 PM	0	67	16	0	2	0	0	1	0	0	0	0	0
5/17/2022	4:00 PM	1	71	14	0	2	0	0	1	0	0	0	0	0
5/17/2022	4:15 PM	1	80	16	0	2	0	0	1	0	0	0	0	0
5/17/2022	4:30 PM	1	88	15	0	1	0	0	1	0	0	0	0	0
5/17/2022	4:45 PM	1	86	14	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:00 PM	0	77	16	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:15 PM	0	68	11	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:30 PM	0	50	15	0	0	0	0	0	0	0	0	0	0
5/17/2022	5:45 PM	0	47	13	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:00 PM	0	43	10	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:15 PM	0	42	9	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:30 PM	0	37	9	0	0	0	0	0	0	0	0	0	0
5/17/2022	6:45 PM	0	35	10	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:00 PM	0	33	9	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:15 PM	0	27	8	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:30 PM	0	30	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	7:45 PM	0	28	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:00 PM	0	29	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:15 PM	0	24	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:30 PM	0	22	5	0	0	0	0	0	0	0	0	0	0
5/17/2022	8:45 PM	0	23	4	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:00 PM	0	16	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:15 PM	0	14	3	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:30 PM	0	13	1	0	0	0	0	0	0	0	0	0	0
5/17/2022	9:45 PM	0	7	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:00 PM	0	8	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:15 PM	0	8	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:30 PM	0	5	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	10:45 PM	0	7	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:00 PM	0	7	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:15 PM	0	6	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:30 PM	0	5	0	0	0	0	0	0	0	0	0	0	0
5/17/2022	11:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	0

Gainesville St Residential - Growth Rate Calculation Worksheet

Percentage Growth									
Roadway	County	Traffic Count Station	2017 Traffic Volumes	2018 Traffic Volumes	2019 Traffic Volumes	2020 Traffic Volumes	2022 Traffic Volumes by Linear Regress.	2025 Traffic Volumes by Linear Regress.	Annual Growth 2022 to 2024
McEver Rd	Hall	139-0469	8,260	8,190	9,540	8,620	9,503	10,232	2.6%
Lights Ferry Rd	Hall	139-0449	2,760	4,260	4,290	3,880	4,984	6,001	6.8%
Phil Niekro Blvd	Hall	139-0445	8,220	8,160	8,220	9,930	10,449	12,006	5.0%
Weighted Average			19,240	20,610	22,050	22,430	24,936	28,239	4.4%

APPENDIX C:

SYNCHRO REPORTS

HCM 6th TWSC
1: Gainesville St & Lights Ferry Road

Gainesville St Residential TIS
Existing AM

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰						↰↱	
Traffic Vol, veh/h	0	166	5	5	87	0	0	0	0	6	0	5
Future Vol, veh/h	0	166	5	5	87	0	0	0	0	6	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	0	200	6	6	105	0	0	0	0	7	0	6

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	206	0	0	320	323	105
Stage 1	-	-	-	-	-	-	117	117	-
Stage 2	-	-	-	-	-	-	203	206	-
Critical Hdwy	-	-	-	4.11	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.209	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1371	-	0	678	598	955
Stage 1	0	-	-	-	-	0	913	803	-
Stage 2	0	-	-	-	-	0	836	735	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1371	-	-	675	0	955
Mov Cap-2 Maneuver	-	-	-	-	-	-	675	0	-
Stage 1	-	-	-	-	-	-	913	0	-
Stage 2	-	-	-	-	-	-	832	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.4	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1371	-	779
HCM Lane V/C Ratio	-	-	0.004	-	0.017
HCM Control Delay (s)	-	-	7.6	0	9.7
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	-	0.1

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	0	5	0	33	0	17	2	26	14	0
Future Vol, veh/h	0	0	0	5	0	33	0	17	2	26	14	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	0	0	6	0	39	0	20	2	31	17	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	6.7	7.1	7.4
HCM LOS	-	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	13%	65%
Vol Thru, %	89%	100%	0%	35%
Vol Right, %	11%	0%	87%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	19	0	38	40
LT Vol	0	0	5	26
Through Vol	17	0	0	14
RT Vol	2	0	33	0
Lane Flow Rate	23	0	45	48
Geometry Grp	1	1	1	1
Degree of Util (X)	0.025	0	0.044	0.055
Departure Headway (Hd)	3.951	4.106	3.525	4.143
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	907	0	1012	867
Service Time	1.97	2.145	1.56	2.155
HCM Lane V/C Ratio	0.025	0	0.044	0.055
HCM Control Delay	7.1	7.1	6.7	7.4
HCM Lane LOS	A	N	A	A
HCM 95th-tile Q	0.1	0	0.1	0.2

HCM 6th Signalized Intersection Summary

3: Gainesville St/GC Crow Rd & McEver Rd

Gainesville St Residential TIS
Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	43	380	6	17	334	119	16	46	33	256	58	82	
Future Volume (veh/h)	43	380	6	17	334	119	16	46	33	256	58	82	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1900	1900	1900	1885	1885	1885	
Adj Flow Rate, veh/h	48	427	7	19	375	134	18	52	0	288	65	0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Percent Heavy Veh, %	2	2	2	2	2	2	0	0	0	1	1	1	
Cap, veh/h	281	538	456	241	493	418	286	168		532	461		
Arrive On Green	0.05	0.29	0.29	0.02	0.26	0.26	0.02	0.09	0.00	0.18	0.24	0.00	
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1810	1900	1610	1795	1885	1598	
Grp Volume(v), veh/h	48	427	7	19	375	134	18	52	0	288	65	0	
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1810	1900	1610	1795	1885	1598	
Q Serve(g_s), s	1.1	11.9	0.2	0.4	10.5	3.9	0.5	1.5	0.0	7.6	1.5	0.0	
Cycle Q Clear(g_c), s	1.1	11.9	0.2	0.4	10.5	3.9	0.5	1.5	0.0	7.6	1.5	0.0	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	281	538	456	241	493	418	286	168		532	461		
V/C Ratio(X)	0.17	0.79	0.02	0.08	0.76	0.32	0.06	0.31		0.54	0.14		
Avail Cap(c_a), veh/h	354	1617	1370	357	1617	1370	406	670		909	1231		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	14.9	18.6	14.5	15.6	19.2	16.8	22.7	24.2	0.0	16.6	16.8	0.0	
Incr Delay (d2), s/veh	0.3	2.7	0.0	0.1	2.5	0.4	0.1	1.0	0.0	0.9	0.1	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.4	4.4	0.1	0.1	3.9	1.3	0.2	0.6	0.0	2.7	0.6	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	15.2	21.4	14.5	15.7	21.7	17.2	22.8	25.3	0.0	17.5	16.9	0.0	
LnGrp LOS	B	C	B	B	C	B	C	C		B	B		
Approach Vol, veh/h	482			528			70			A	353		A
Approach Delay, s/veh	20.6			20.3			24.6				17.4		
Approach LOS	C			C			C				B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	7.0	20.9	7.2	19.9	7.3	22.3	16.1	11.0					
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0					
Max Green Setting (Gmax), s	5.0	49.0	5.0	37.0	5.0	49.0	22.0	20.0					
Max Q Clear Time (g_c+I1), s	12.5	12.5	2.5	3.5	2.4	13.9	9.6	3.5					
Green Ext Time (p_c), s	0.0	2.4	0.0	0.3	0.0	2.3	0.6	0.1					

Intersection Summary

HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
1: Gainesville St & Lights Ferry Road

Gainesville St Residential TIS
Existing PM

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰						↕	
Traffic Vol, veh/h	0	177	6	31	229	0	0	0	0	13	4	10
Future Vol, veh/h	0	177	6	31	229	0	0	0	0	13	4	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	190	6	33	246	0	0	0	0	14	4	11

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	196	0	0	505	508	246
Stage 1	-	-	-	-	-	-	312	312	-
Stage 2	-	-	-	-	-	-	193	196	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1389	-	0	530	471	798
Stage 1	0	-	-	-	-	0	747	661	-
Stage 2	0	-	-	-	-	0	845	742	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1389	-	-	515	0	798
Mov Cap-2 Maneuver	-	-	-	-	-	-	515	0	-
Stage 1	-	-	-	-	-	-	747	0	-
Stage 2	-	-	-	-	-	-	821	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.9	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1389	-	609
HCM Lane V/C Ratio	-	-	0.024	-	0.048
HCM Control Delay (s)	-	-	7.7	0	11.2
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	0.1

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	0	21	0	62	0	38	2	49	38	2
Future Vol, veh/h	1	0	0	21	0	62	0	38	2	49	38	2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	1	1	1	0	0	0	1	1	1
Mvmt Flow	1	0	0	25	0	75	0	46	2	59	46	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.3	7.4	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	25%	55%
Vol Thru, %	95%	0%	0%	43%
Vol Right, %	5%	0%	75%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	1	83	89
LT Vol	0	1	21	49
Through Vol	38	0	0	38
RT Vol	2	0	62	2
Lane Flow Rate	48	1	100	107
Geometry Grp	1	1	1	1
Degree of Util (X)	0.055	0.001	0.105	0.126
Departure Headway (Hd)	4.129	4.448	3.787	4.228
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	860	792	932	845
Service Time	2.188	2.547	1.869	2.27
HCM Lane V/C Ratio	0.056	0.001	0.107	0.127
HCM Control Delay	7.4	7.6	7.3	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.4	0.4

HCM 6th Signalized Intersection Summary

3: Gainesville St/GC Crow Rd & McEver Rd

Gainesville St Residential TIS
Existing PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	110	472	4	35	417	173	7	69	30	142	56	62	
Future Volume (veh/h)	110	472	4	35	417	173	7	69	30	142	56	62	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	120	513	4	38	453	188	8	75	0	154	61	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	0	0	0	
Cap, veh/h	335	650	551	288	584	495	267	168		381	342		
Arrive On Green	0.08	0.34	0.34	0.04	0.31	0.31	0.01	0.09	0.00	0.10	0.18	0.00	
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1900	1610	1810	1900	1610	
Grp Volume(v), veh/h	120	513	4	38	453	188	8	75	0	154	61	0	
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	1900	1610	1810	1900	1610	
Q Serve(g_s), s	2.5	13.8	0.1	0.8	12.3	5.2	0.2	2.1	0.0	4.1	1.5	0.0	
Cycle Q Clear(g_c), s	2.5	13.8	0.1	0.8	12.3	5.2	0.2	2.1	0.0	4.1	1.5	0.0	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	335	650	551	288	584	495	267	168		381	342		
V/C Ratio(X)	0.36	0.79	0.01	0.13	0.78	0.38	0.03	0.45		0.40	0.18		
Avail Cap(c_a), veh/h	454	1969	1669	376	1869	1584	408	673		581	908		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	13.0	16.6	12.1	13.5	17.7	15.3	23.0	24.4	0.0	19.3	19.6	0.0	
Incr Delay (d2), s/veh	0.6	2.2	0.0	0.2	2.3	0.5	0.0	1.8	0.0	0.7	0.2	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.8	4.8	0.0	0.3	4.4	1.7	0.1	1.0	0.0	1.6	0.6	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	13.7	18.8	12.2	13.7	20.0	15.7	23.1	26.3	0.0	20.0	19.9	0.0	
LnGrp LOS	B	B	B	B	B	B	C	C		C	B		
Approach Vol, veh/h	637			679			83			A	215		A
Approach Delay, s/veh	17.8			18.4			26.0			20.0			
Approach LOS	B			B			C			B			
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), \$0.2	23.5	6.6	16.2	8.2	25.5	11.8	11.0						
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0						
Max Green Setting (Gmax), s	56.0	5.0	27.0	5.0	59.0	12.0	20.0						
Max Q Clear Time (g_c+I), s	14.3	2.2	3.5	2.8	15.8	6.1	4.1						
Green Ext Time (p_c), s	0.1	3.2	0.0	0.2	0.0	3.0	0.2	0.2					

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
1: Gainesville St & Lights Ferry Road

Gainesville St Residential TIS
No Build AM

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	189	6	6	99	0	0	0	0	7	0	6
Future Vol, veh/h	0	189	6	6	99	0	0	0	0	7	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	0	228	7	7	119	0	0	0	0	8	0	7
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	235	0	0				365	368	119
Stage 1	-	-	-	-	-	-				133	133	-
Stage 2	-	-	-	-	-	-				232	235	-
Critical Hdwy	-	-	-	4.11	-	-				6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-				5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.4	5.5	-
Follow-up Hdwy	-	-	-	2.209	-	-				3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1338	-	0				639	564	938
Stage 1	0	-	-	-	-	0				898	790	-
Stage 2	0	-	-	-	-	0				811	714	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1338	-	-				635	0	938
Mov Cap-2 Maneuver	-	-	-	-	-	-				635	0	-
Stage 1	-	-	-	-	-	-				898	0	-
Stage 2	-	-	-	-	-	-				806	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			0.4			9.9					
HCM LOS							A					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1338	-	746							
HCM Lane V/C Ratio	-	-	0.005	-	0.021							
HCM Control Delay (s)	-	-	7.7	0	9.9							
HCM Lane LOS	-	-	A	A	A							
HCM 95th %tile Q(veh)	-	-	0	-	0.1							

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	0	6	0	38	0	19	2	30	16	0
Future Vol, veh/h	0	0	0	6	0	38	0	19	2	30	16	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	0	0	7	0	45	0	23	2	36	19	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	6.8	7.1	7.5
HCM LOS	-	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	14%	65%
Vol Thru, %	90%	100%	0%	35%
Vol Right, %	10%	0%	86%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	0	44	46
LT Vol	0	0	6	30
Through Vol	19	0	0	16
RT Vol	2	0	38	0
Lane Flow Rate	25	0	52	55
Geometry Grp	1	1	1	1
Degree of Util (X)	0.028	0	0.052	0.063
Departure Headway (Hd)	3.977	4.13	3.546	4.159
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	901	0	1005	863
Service Time	1.999	2.174	1.585	2.174
HCM Lane V/C Ratio	0.028	0	0.052	0.064
HCM Control Delay	7.1	7.2	6.8	7.5
HCM Lane LOS	A	N	A	A
HCM 95th-tile Q	0.1	0	0.2	0.2

HCM 6th Signalized Intersection Summary

3: Gainesville St/GC Crow Rd & McEver Rd

Gainesville St Residential TIS

No Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	49	432	7	19	380	135	18	52	38	291	66	93	
Future Volume (veh/h)	49	432	7	19	380	135	18	52	38	291	66	93	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1900	1900	1900	1885	1885	1885	
Adj Flow Rate, veh/h	55	485	8	21	427	152	20	58	0	327	74	0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Percent Heavy Veh, %	2	2	2	2	2	2	0	0	0	1	1	1	
Cap, veh/h	270	590	500	227	543	460	265	152		537	477		
Arrive On Green	0.05	0.32	0.32	0.02	0.29	0.29	0.02	0.08	0.00	0.20	0.25	0.00	
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1810	1900	1610	1795	1885	1598	
Grp Volume(v), veh/h	55	485	8	21	427	152	20	58	0	327	74	0	
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1810	1900	1610	1795	1885	1598	
Q Serve(g_s), s	1.3	15.0	0.2	0.5	13.1	4.7	0.6	1.8	0.0	9.6	1.9	0.0	
Cycle Q Clear(g_c), s	1.3	15.0	0.2	0.5	13.1	4.7	0.6	1.8	0.0	9.6	1.9	0.0	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	270	590	500	227	543	460	265	152		537	477		
V/C Ratio(X)	0.20	0.82	0.02	0.09	0.79	0.33	0.08	0.38		0.61	0.16		
Avail Cap(c_a), veh/h	325	1466	1242	326	1466	1242	368	608		816	1116		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	15.5	19.8	14.7	16.3	20.4	17.4	25.4	27.3	0.0	18.4	18.2	0.0	
Incr Delay (d2), s/veh	0.4	2.9	0.0	0.2	2.6	0.4	0.1	1.6	0.0	1.1	0.1	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.4	5.6	0.1	0.2	5.0	1.6	0.3	0.8	0.0	3.5	0.7	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	15.9	22.7	14.7	16.5	23.0	17.8	25.5	28.9	0.0	19.6	18.3	0.0	
LnGrp LOS	B	C	B	B	C	B	C	C		B	B		
Approach Vol, veh/h	548			600			78			A	401		A
Approach Delay, s/veh	21.9			21.4			28.0				19.3		
Approach LOS	C			C			C				B		
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	9.1	24.2	7.5	21.8	7.5	25.7	18.3	11.0					
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0					
Max Green Setting (Gmax), s	5.0	49.0	5.0	37.0	5.0	49.0	22.0	20.0					
Max Q Clear Time (g_c+I), s	13.3	15.1	2.6	3.9	2.5	17.0	11.6	3.8					
Green Ext Time (p_c), s	0.0	2.8	0.0	0.3	0.0	2.7	0.7	0.2					

Intersection Summary

HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
1: Gainesville St & Lights Ferry Road

Gainesville St Residential TIS
No-Build PM

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↰						↰↱	
Traffic Vol, veh/h	0	201	7	35	261	0	0	0	0	15	5	11
Future Vol, veh/h	0	201	7	35	261	0	0	0	0	15	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	216	8	38	281	0	0	0	0	16	5	12

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	224	0	0	577	581	281
Stage 1	-	-	-	-	-	-	357	357	-
Stage 2	-	-	-	-	-	-	220	224	-
Critical Hdwy	-	-	-	4.1	-	-	6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-	3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1357	-	0	482	428	763
Stage 1	0	-	-	-	-	0	713	632	-
Stage 2	0	-	-	-	-	0	821	722	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	1357	-	-	466	0	763
Mov Cap-2 Maneuver	-	-	-	-	-	-	466	0	-
Stage 1	-	-	-	-	-	-	713	0	-
Stage 2	-	-	-	-	-	-	794	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0.9	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	1357	-	558
HCM Lane V/C Ratio	-	-	0.028	-	0.06
HCM Control Delay (s)	-	-	7.7	0	11.9
HCM Lane LOS	-	-	A	A	B
HCM 95th %tile Q(veh)	-	-	0.1	-	0.2

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	0	24	0	71	0	43	2	56	43	2
Future Vol, veh/h	1	0	0	24	0	71	0	43	2	56	43	2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	1	1	1	0	0	0	1	1	1
Mvmt Flow	1	0	0	29	0	86	0	52	2	67	52	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.5	7.5	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	25%	55%
Vol Thru, %	96%	0%	0%	43%
Vol Right, %	4%	0%	75%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	1	95	101
LT Vol	0	1	24	56
Through Vol	43	0	0	43
RT Vol	2	0	71	2
Lane Flow Rate	54	1	114	122
Geometry Grp	1	1	1	1
Degree of Util (X)	0.063	0.002	0.121	0.144
Departure Headway (Hd)	4.17	4.613	3.821	4.26
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	850	780	920	836
Service Time	2.242	2.613	1.919	2.313
HCM Lane V/C Ratio	0.064	0.001	0.124	0.146
HCM Control Delay	7.5	7.6	7.5	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.4	0.5

HCM 6th Signalized Intersection Summary 3: Gainesville St/GC Crow Rd & McEver Rd

Gainesville St Residential TIS
No-Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	537	5	40	475	197	8	79	34	162	64	71
Future Volume (veh/h)	125	537	5	40	475	197	8	79	34	162	64	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	584	5	43	516	214	9	86	0	176	70	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	0	0	0
Cap, veh/h	318	703	596	269	643	545	248	155		372	347	
Arrive On Green	0.07	0.37	0.37	0.04	0.34	0.34	0.01	0.08	0.00	0.11	0.18	0.00
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1900	1610	1810	1900	1610
Grp Volume(v), veh/h	136	584	5	43	516	214	9	86	0	176	70	0
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	1900	1610	1810	1900	1610
Q Serve(g_s), s	2.9	17.3	0.1	0.9	15.3	6.3	0.3	2.7	0.0	5.1	1.9	0.0
Cycle Q Clear(g_c), s	2.9	17.3	0.1	0.9	15.3	6.3	0.3	2.7	0.0	5.1	1.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	318	703	596	269	643	545	248	155		372	347	
V/C Ratio(X)	0.43	0.83	0.01	0.16	0.80	0.39	0.04	0.56		0.47	0.20	
Avail Cap(c_a), veh/h	419	1810	1534	339	1718	1456	374	618		521	835	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.7	17.5	12.1	14.0	18.4	15.4	25.4	27.2	0.0	20.5	21.3	0.0
Incr Delay (d2), s/veh	0.9	2.6	0.0	0.3	2.4	0.5	0.1	3.1	0.0	0.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	6.2	0.0	0.3	5.6	2.1	0.1	1.3	0.0	2.0	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	20.1	12.1	14.3	20.7	15.9	25.5	30.3	0.0	21.5	21.6	0.0
LnGrp LOS	B	C	B	B	C	B	C	C		C	C	
Approach Vol, veh/h	725				773		95		A	246		A
Approach Delay, s/veh	19.0				19.0		29.8			21.5		
Approach LOS	B				B		C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	27.0	6.7	17.2	8.6	28.9	12.9	11.0					
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0					
Max Green Setting (Gmax), s	56.0	5.0	27.0	5.0	59.0	12.0	20.0					
Max Q Clear Time (g_c+I4, s)	17.3	2.3	3.9	2.9	19.3	7.1	4.7					
Green Ext Time (p_c), s	0.1	3.7	0.0	0.2	0.0	3.5	0.2	0.3				

Intersection Summary

HCM 6th Ctrl Delay 19.9
HCM 6th LOS B

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th TWSC
1: Gainesville St & Lights Ferry Road

Gainesville St Residential TIS
Build AM

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	189	6	6	99	0	0	0	0	66	0	6
Future Vol, veh/h	0	189	6	6	99	0	0	0	0	66	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	0	228	7	7	119	0	0	0	0	80	0	7
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	235	0	0				365	368	119
Stage 1	-	-	-	-	-	-				133	133	-
Stage 2	-	-	-	-	-	-				232	235	-
Critical Hdwy	-	-	-	4.11	-	-				6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-				5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.4	5.5	-
Follow-up Hdwy	-	-	-	2.209	-	-				3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1338	-	0				639	564	938
Stage 1	0	-	-	-	-	0				898	790	-
Stage 2	0	-	-	-	-	0				811	714	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1338	-	-				635	0	938
Mov Cap-2 Maneuver	-	-	-	-	-	-				635	0	-
Stage 1	-	-	-	-	-	-				898	0	-
Stage 2	-	-	-	-	-	-				806	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			0.4			11.4					
HCM LOS	B											
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1338	-	653							
HCM Lane V/C Ratio	-	-	0.005	-	0.133							
HCM Control Delay (s)	-	-	7.7	0	11.4							
HCM Lane LOS	-	-	A	A	B							
HCM 95th %tile Q(veh)	-	-	0	-	0.5							

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	0	6	0	69	0	19	2	53	75	0
Future Vol, veh/h	0	0	0	6	0	69	0	19	2	53	75	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	3	3	3	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	0	0	7	0	82	0	23	2	63	89	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	7.1	7.3	8.1
HCM LOS	-	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	8%	41%
Vol Thru, %	90%	100%	0%	59%
Vol Right, %	10%	0%	92%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	0	75	128
LT Vol	0	0	6	53
Through Vol	19	0	0	75
RT Vol	2	0	69	0
Lane Flow Rate	25	0	89	152
Geometry Grp	1	1	1	1
Degree of Util (X)	0.029	0	0.091	0.177
Departure Headway (Hd)	4.115	4.436	3.667	4.175
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	863	0	959	858
Service Time	2.176	2.436	1.761	2.205
HCM Lane V/C Ratio	0.029	0	0.093	0.177
HCM Control Delay	7.3	7.4	7.1	8.1
HCM Lane LOS	A	N	A	A
HCM 95th-tile Q	0.1	0	0.3	0.6

HCM 6th Signalized Intersection Summary

3: Gainesville St/GC Crow Rd & McEver Rd

Gainesville St Residential TIS
Build AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	49	432	22	30	380	135	55	52	67	291	66	93	
Future Volume (veh/h)	49	432	22	30	380	135	55	52	67	291	66	93	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1900	1900	1900	1885	1885	1885	
Adj Flow Rate, veh/h	55	485	25	34	427	152	62	58	0	327	74	0	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	
Percent Heavy Veh, %	2	2	2	2	2	2	0	0	0	1	1	1	
Cap, veh/h	279	589	499	242	564	478	313	149		531	419		
Arrive On Green	0.05	0.31	0.31	0.04	0.30	0.30	0.05	0.08	0.00	0.20	0.22	0.00	
Sat Flow, veh/h	1781	1870	1585	1781	1870	1585	1810	1900	1610	1795	1885	1598	
Grp Volume(v), veh/h	55	485	25	34	427	152	62	58	0	327	74	0	
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	1585	1810	1900	1610	1795	1885	1598	
Q Serve(g_s), s	1.3	15.3	0.7	0.8	13.2	4.7	2.0	1.9	0.0	9.9	2.0	0.0	
Cycle Q Clear(g_c), s	1.3	15.3	0.7	0.8	13.2	4.7	2.0	1.9	0.0	9.9	2.0	0.0	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	279	589	499	242	564	478	313	149		531	419		
V/C Ratio(X)	0.20	0.82	0.05	0.14	0.76	0.32	0.20	0.39		0.62	0.18		
Avail Cap(c_a), veh/h	331	1434	1215	319	1434	1215	360	595		797	1091		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	15.4	20.3	15.2	16.0	20.2	17.3	25.0	28.0	0.0	19.0	20.1	0.0	
Incr Delay (d2), s/veh	0.3	3.0	0.0	0.3	2.1	0.4	0.3	1.7	0.0	1.2	0.2	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.5	5.8	0.2	0.3	5.0	1.6	0.8	0.9	0.0	3.7	0.8	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	15.7	23.2	15.3	16.3	22.3	17.6	25.3	29.7	0.0	20.2	20.3	0.0	
LnGrp LOS	B	C	B	B	C	B	C	C		C	C		
Approach Vol, veh/h	565			613			120			A	401		A
Approach Delay, s/veh	22.2			20.8			27.4				20.2		
Approach LOS	C			C			C				C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), s	9.1	25.3	9.3	20.2	8.3	26.1	18.5	11.0					
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0					
Max Green Setting (Gmax), s	5.0	49.0	5.0	37.0	5.0	49.0	22.0	20.0					
Max Q Clear Time (g_c+I3,3), s	13.3	15.2	4.0	4.0	2.8	17.3	11.9	3.9					
Green Ext Time (p_c), s	0.0	2.8	0.0	0.3	0.0	2.8	0.7	0.2					

Intersection Summary

HCM 6th Ctrl Delay 21.6
HCM 6th LOS C

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	29	0	18	2	55	11	6	100	2
Future Vol, veh/h	5	0	5	29	0	18	2	55	11	6	100	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	5	0	5	32	0	20	2	60	12	7	109	2
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	204	200	110	197	195	66	111	0	0	72	0	0
Stage 1	124	124	-	70	70	-	-	-	-	-	-	-
Stage 2	80	76	-	127	125	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	758	699	949	766	704	1003	1466	-	-	1515	-	-
Stage 1	885	797	-	945	841	-	-	-	-	-	-	-
Stage 2	934	836	-	882	796	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	740	695	949	758	700	1003	1466	-	-	1515	-	-
Mov Cap-2 Maneuver	740	695	-	758	700	-	-	-	-	-	-	-
Stage 1	884	793	-	944	840	-	-	-	-	-	-	-
Stage 2	915	835	-	873	792	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.4		9.6			0.2			0.4			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1466	-	-	832	836	1515	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.013	0.061	0.004	-	-				
HCM Control Delay (s)	7.5	0	-	9.4	9.6	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-				

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	42	0	39	2	55	17	16	84	2
Future Vol, veh/h	5	0	5	42	0	39	2	55	17	16	84	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	4	4	4	4	4	4
Mvmt Flow	5	0	5	46	0	42	2	60	18	17	91	2
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	220	208	92	202	200	69	93	0	0	78	0	0
Stage 1	126	126	-	73	73	-	-	-	-	-	-	-
Stage 2	94	82	-	129	127	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.236	-	-	2.236	-	-
Pot Cap-1 Maneuver	740	692	971	761	699	1000	1489	-	-	1508	-	-
Stage 1	883	796	-	942	838	-	-	-	-	-	-	-
Stage 2	918	831	-	880	795	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	702	683	971	750	690	1000	1489	-	-	1508	-	-
Mov Cap-2 Maneuver	702	683	-	750	690	-	-	-	-	-	-	-
Stage 1	882	786	-	941	837	-	-	-	-	-	-	-
Stage 2	878	830	-	865	785	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.5		9.7		0.2		1.2					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1489	-	-	815	853	1508	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.013	0.103	0.012	-	-				
HCM Control Delay (s)	7.4	0	-	9.5	9.7	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0	-	-				

HCM 6th TWSC
1: Gainesville St & Lights Ferry Road

Gainesville St Residential TIS
Build PM

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↱			↱						↱↲	
Traffic Vol, veh/h	0	201	7	35	261	0	0	0	0	56	5	11
Future Vol, veh/h	0	201	7	35	261	0	0	0	0	56	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	216	8	38	281	0	0	0	0	60	5	12
Major/Minor	Major1			Major2			Minor2					
Conflicting Flow All	-	0	0	224	0	0				577	581	281
Stage 1	-	-	-	-	-	-				357	357	-
Stage 2	-	-	-	-	-	-				220	224	-
Critical Hdwy	-	-	-	4.1	-	-				6.4	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-				5.4	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.4	5.5	-
Follow-up Hdwy	-	-	-	2.2	-	-				3.5	4	3.3
Pot Cap-1 Maneuver	0	-	-	1357	-	0				482	428	763
Stage 1	0	-	-	-	-	0				713	632	-
Stage 2	0	-	-	-	-	0				821	722	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	-	-	-	1357	-	-				466	0	763
Mov Cap-2 Maneuver	-	-	-	-	-	-				466	0	-
Stage 1	-	-	-	-	-	-				713	0	-
Stage 2	-	-	-	-	-	-				794	0	-
Approach	EB			WB			SB					
HCM Control Delay, s	0			0.9			13.6					
HCM LOS							B					
Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1							
Capacity (veh/h)	-	-	1357	-	498							
HCM Lane V/C Ratio	-	-	0.028	-	0.155							
HCM Control Delay (s)	-	-	7.7	0	13.6							
HCM Lane LOS	-	-	A	A	B							
HCM 95th %tile Q(veh)	-	-	0.1	-	0.5							

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	1	0	0	24	0	159	0	43	2	72	84	2
Future Vol, veh/h	1	0	0	24	0	159	0	43	2	72	84	2
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	0	0	0	1	1	1	0	0	0	1	1	1
Mvmt Flow	1	0	0	29	0	192	0	52	2	87	101	2
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	8.3	7.9	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	100%	13%	46%
Vol Thru, %	96%	0%	0%	53%
Vol Right, %	4%	0%	87%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	1	183	158
LT Vol	0	1	24	72
Through Vol	43	0	0	84
RT Vol	2	0	159	2
Lane Flow Rate	54	1	220	190
Geometry Grp	1	1	1	1
Degree of Util (X)	0.069	0.002	0.245	0.241
Departure Headway (Hd)	4.556	4.909	3.999	4.55
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	786	729	900	794
Service Time	2.584	2.939	2.017	2.55
HCM Lane V/C Ratio	0.069	0.001	0.244	0.239
HCM Control Delay	7.9	7.9	8.3	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	1	0.9

HCM 6th Signalized Intersection Summary 3: Gainesville St/GC Crow Rd & McEver Rd

Gainesville St Residential TIS
Build PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	125	537	45	72	475	197	34	79	54	162	64	71	
Future Volume (veh/h)	125	537	45	72	475	197	34	79	54	162	64	71	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No			No			No			
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	136	584	49	78	516	214	37	86	0	176	70	0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	1	1	1	1	1	1	0	0	0	0	0	0	
Cap, veh/h	327	700	593	290	674	571	289	151		367	296		
Arrive On Green	0.07	0.37	0.37	0.06	0.36	0.36	0.04	0.08	0.00	0.11	0.16	0.00	
Sat Flow, veh/h	1795	1885	1598	1795	1885	1598	1810	1900	1610	1810	1900	1610	
Grp Volume(v), veh/h	136	584	49	78	516	214	37	86	0	176	70	0	
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1795	1885	1598	1810	1900	1610	1810	1900	1610	
Q Serve(g_s), s	3.0	18.0	1.3	1.7	15.4	6.3	1.2	2.8	0.0	5.4	2.1	0.0	
Cycle Q Clear(g_c), s	3.0	18.0	1.3	1.7	15.4	6.3	1.2	2.8	0.0	5.4	2.1	0.0	
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00	
Lane Grp Cap(c), veh/h	327	700	593	290	674	571	289	151		367	296		
V/C Ratio(X)	0.42	0.83	0.08	0.27	0.77	0.37	0.13	0.57		0.48	0.24		
Avail Cap(c_a), veh/h	423	1745	1479	325	1656	1404	362	596		501	805		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	
Uniform Delay (d), s/veh	13.5	18.3	13.0	13.9	18.1	15.2	25.4	28.3	0.0	22.3	23.6	0.0	
Incr Delay (d2), s/veh	0.8	2.7	0.1	0.5	1.8	0.4	0.2	3.4	0.0	1.0	0.4	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.0	6.5	0.4	0.6	5.6	2.1	0.5	1.3	0.0	2.1	0.9	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	14.3	21.0	13.1	14.4	20.0	15.6	25.6	31.6	0.0	23.3	24.0	0.0	
LnGrp LOS	B	C	B	B	B	B	C	C		C	C		
Approach Vol, veh/h	769			808			123			A	246		A
Approach Delay, s/veh	19.3			18.3			29.8				23.5		
Approach LOS	B			B			C				C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8					
Phs Duration (G+Y+Rc), \$0.6	28.8		8.4	15.9	9.7	29.7	13.3	11.1					
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0					
Max Green Setting (Gmax), s	56.0		5.0	27.0	5.0	59.0	12.0	20.0					
Max Q Clear Time (g_c+15, s)	17.4		3.2	4.1	3.7	20.0	7.4	4.8					
Green Ext Time (p_c), s	0.1	3.7	0.0	0.2	0.0	3.7	0.2	0.3					

Intersection Summary

HCM 6th Ctrl Delay 20.1
HCM 6th LOS C

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	3	21	0	12	6	139	33	19	123	6
Future Vol, veh/h	3	0	3	21	0	12	6	139	33	19	123	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	0	3	23	0	13	7	151	36	21	134	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	370	381	138	364	366	169	141	0	0	187	0	0
Stage 1	180	180	-	183	183	-	-	-	-	-	-	-
Stage 2	190	201	-	181	183	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	590	555	916	596	566	880	1455	-	-	1399	-	-
Stage 1	826	754	-	823	752	-	-	-	-	-	-	-
Stage 2	816	739	-	825	752	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	572	543	916	585	554	880	1455	-	-	1399	-	-
Mov Cap-2 Maneuver	572	543	-	585	554	-	-	-	-	-	-	-
Stage 1	822	742	-	819	748	-	-	-	-	-	-	-
Stage 2	800	735	-	809	740	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.2		10.7		0.3		1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1455	-	-	704	666	1399	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.009	0.054	0.015	-	-				
HCM Control Delay (s)	7.5	0	-	10.2	10.7	7.6	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.2	0	-	-				

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	3	30	0	28	6	102	44	41	130	6
Future Vol, veh/h	3	0	3	30	0	28	6	102	44	41	130	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	3	0	3	33	0	30	7	111	48	45	141	7
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	399	408	145	385	387	135	148	0	0	159	0	0
Stage 1	235	235	-	149	149	-	-	-	-	-	-	-
Stage 2	164	173	-	236	238	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	565	536	908	577	551	919	1446	-	-	1433	-	-
Stage 1	773	714	-	858	778	-	-	-	-	-	-	-
Stage 2	843	760	-	772	712	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	530	515	908	558	530	919	1446	-	-	1433	-	-
Mov Cap-2 Maneuver	530	515	-	558	530	-	-	-	-	-	-	-
Stage 1	769	690	-	854	774	-	-	-	-	-	-	-
Stage 2	811	756	-	743	688	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.4		10.8		0.3		1.8					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1446	-	-	669	689	1433	-	-				
HCM Lane V/C Ratio	0.005	-	-	0.01	0.091	0.031	-	-				
HCM Control Delay (s)	7.5	0	-	10.4	10.8	7.6	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.3	0.1	-	-				

APPENDIX D:

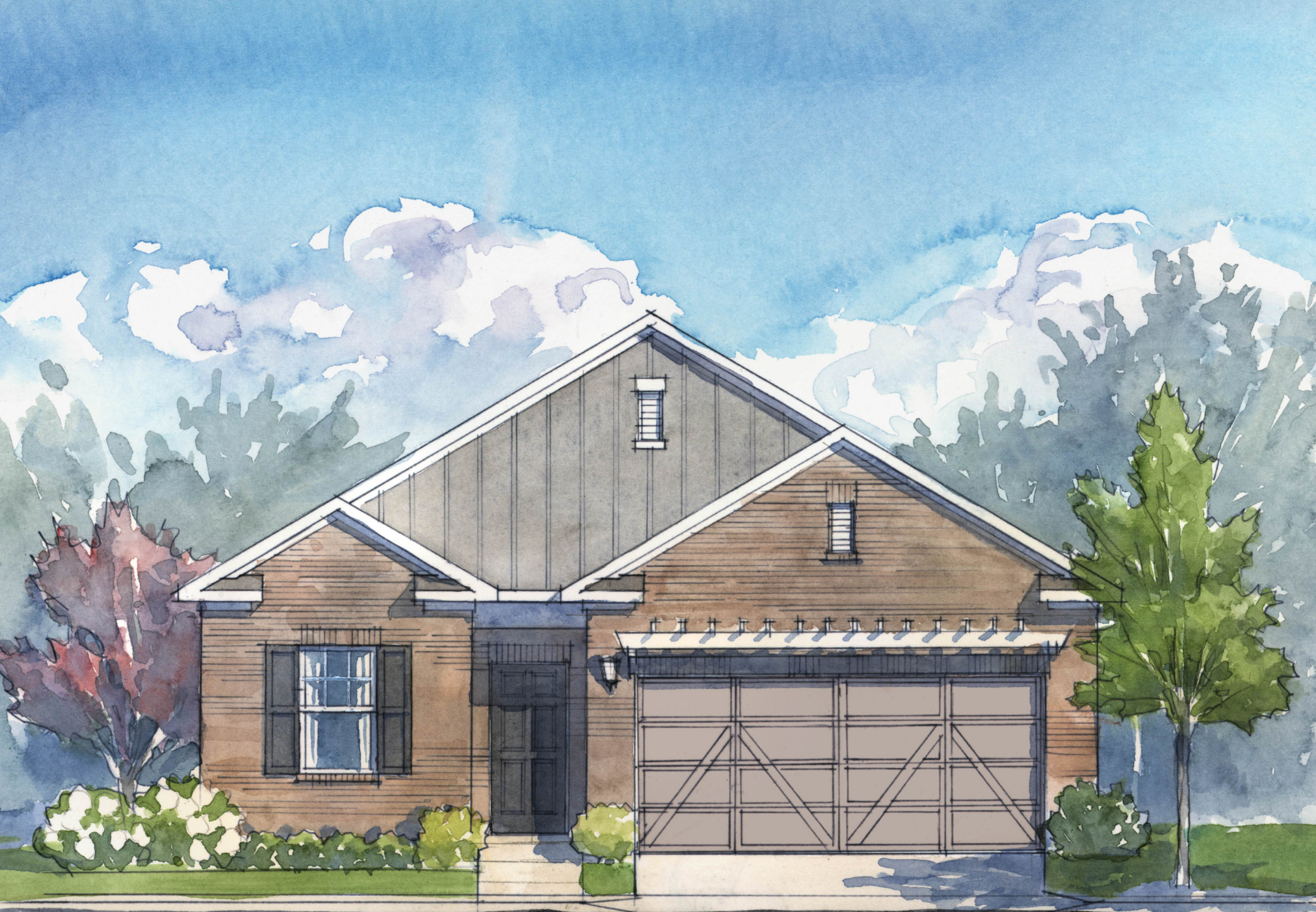
TURN LANE EVALUATIONS

GDOT Turn Lane Evaluations

ID	Intersection	Movement/ Turn Lane	Turn Volume	GDOT Volume Criteria	GDOT Criteria met?		Gainesville St: 35 MPH, ADT < 6000			
							LUC 210 Distribution	LUC 215 Distribution	Total Volume	Threshold
4	Gainesville St & Site Dwy 1 / Site Dwy 3	NBR	225 RT/Day	200 RT/Day	YES	RTV	25%	10%	225	200
		NBL	27 LT/Day	300 LT/Day	NO	LTV	5%	0%	27	300
		SBR	27 RT/Day	200 RT/Day	NO	RTV	5%	0%	27	200
		SBL	126 LT/Day	300 LT/Day	NO	LTV	15%	5%	126	300
5	Gainesville St & Site Dwy 2 / Site Dwy 4	NBR	510 RT/Day	200 RT/Day	YES	RTV	20%	45%	510	200
		NBL	27 LT/Day	300 LT/Day	NO	LTV	5%	0%	27	300
		SBR	27 RT/Day	200 RT/Day	NO	RTV	5%	0%	27	200
		SBL	466 LT/Day	300 LT/Day	YES	LTV	20%	40%	466	300

		TOTAL	IN	OUT
LUC 210 - 186 Dwelling Units	Daily	1,786	893	893
	AM Peak Hour	131	34	97
	PM Peak Hour	178	112	66
LUC 215 - 149 Dwelling Units	Daily	1,084	542	542
	AM Peak Hour	72	22	50
	PM Peak Hour	85	48	37















FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Award of Contract to NFP for Benefits Consulting and Brokerage Services

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

- Historically the city has outsourced the Benefits Consulting and Brokerage services.
- Lanier Planning Corporation currently provides Benefits Consulting and Brokerage Services for the City of Flowery Branch.

FACTS AND ISSUES:

- Insurance expenses have increased each year with the market and as our city has grown.
- As our city continues to grow, new and innovative benefits will become necessary to attract and retain qualified employees.
- Epic Brokers, Lanier Planning, National Benefits Services Center, NFP, One Digital and Relation all submitted proposals for services.
- All proposals were evaluated and the top three (Epic Brokers, One Digital and NFP) were interviewed by the evaluation team.
- After the interviews were completed, staff recommends NFP as the Benefits Consultant for the City of Flowery Branch.
- NFP's team dedicated to Flowery Branch has over 80 years of combined experience.
- NFP will provide an employee portal, so employees can manage their benefits.
- NFP will provide increased communication through an annual benefits fair, monthly health initiatives emails and health initiatives podcast.
- NFP will shop services annually to ensure the city and employees are receiving best value.
- NFP also provides support in six key areas: Strategic Planning, Financial Management, Benefits Administration, Health Risk Management and Well-Being, Teammate Engagement and Compliance and Legislative support.

OPTIONS:

Approve staff recommendation or deny and remain with Lanier Planning.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

N/A

RECOMMENDATION:

Approval of Contract to NFP for Benefits Consulting and Brokerage Services

SAMPLE MOTION:

I make a motion to execute the annual contract for Benefits Consulting and Brokerage Services with four 1yr extension options to NFP.

COLLABORATING DEPARTMENT:

Finance

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [City of Flowery Branch Broker Services and Consulting Agreement.doc](#)
- [Executive Summary - Insurance Broker and Benefits services.pdf](#)

Broker Services and Consulting Agreement

This Broker Services and Consulting Agreement hereinafter referred to as “Agreement” is between City of Flowery Branch, Georgia, hereinafter referred to as “City of Flowery Branch” and NFP Corp. hereinafter referred to as “NFP,” collectively referred to as “the Parties.”

WHEREAS, City of Flowery Branch wishes to obtain the assistance of NFP with strategic benefit planning, design, funding, administration, and communication with respect to its employee benefit programs;

WHEREAS, NFP has superior knowledge and expertise in assisting employers with designing and servicing employee benefit plans; and

WHEREAS, the parties wish to set forth their respective expectations.

Now, therefore, for good and valuable consideration, the receipt and sufficiency of which is hereby mutually acknowledged, the parties hereby agree as follows:

1. Scope of Services to be Provided by NFP

NFP will provide City of Flowery Branch with consulting and brokerage services for the following benefit programs listed below:

- Medical
- Dental
- Basic Life & AD&D
- Voluntary Life & AD&D
- Short and Long Term Disability
- Vision
- HRA
- Flexible Spending Accounts
- Wellness
- Health Advocacy
- Voluntary Benefits
- COBRA Administration
- Other Employee Benefits Selected by City of Flowery Branch

- A. **Strategic Benefit Planning.** NFP will provide assistance in developing overall plan benchmarks and targets to ensure that the plan meets the objectives of City of Flowery Branch and its employees.
- B. **Benefit Design.** NFP will help to ensure that benefit designs are consistent with the strategic benchmarks and targets set forth in the strategic benefit planning process.
- C. **Administration.** NFP will identify core administrative services, assess vendor performance, and manage vendor relationships to provide appropriate program administration.
- D. **Technology.** NFP will provide, implement and maintain the benefit administration platform for City of Flowery Branch. This will include all necessary data feeds to carriers, and vendors.

- E. Funding.** NFP will advise and counsel regarding program funding alternatives, including review of proposals, recommend budget rates, employee contribution rates, and COBRA rates; and monitor program costs against expectations.
- F. Communication.** NFP will draft employee communications for approval by City of Flowery Branch regarding benefit program performance and changes, and will conduct a review of plan documents and insurance certificates during the planning and enrollment process.
- G. Compliance Tools & Legislative Information.** NFP will provide informational materials on legislative developments impacting employee benefit plans, including access to online reference tools on topics such as ERISA, PPACA, FMLA, COBRA, HIPAA, HIPAA Privacy, and Section 125.
- H. Meetings with City of Flowery Branch and Vendors.** Services will include attendance at and facilitation of regular meetings with City of Flowery Branch and vendors as needed to facilitate program management including day-to-day operations and planning program changes.
- NFP shall meet with City of Flowery Branch on a regular basis to review all activities performed by NFP during the prior time period. The meetings will include discussion of business concerns, including presentations of options and recommendations.
 - NFP shall meet with City of Flowery Branch regularly to discuss review of the program, state of the marketplace, progress made toward strategic plan, and developments within City of Flowery Branch's organization.
 - NFP shall meet with City of Flowery Branch annually to review the program for the preceding year, create a report outlining the goals and objectives for the upcoming year and make product and service recommendations for the new plan year.
- I. Day-to-Day Administrative Issues.** NFP shall be responsible for the daily administration of programs, including resolution of carrier and vendor service issues and addressing questions and concerns raised by City of Flowery Branch employees and management.
- NFP will enroll all current and new employees in the selected benefit plans and answer questions concerning these plans. This will include onsite and virtual education and enrollment meetings to accommodate employee schedules. NFP will endeavor to resolve all claims issues with regard to the employee benefit plans they administer in accordance with the applicable claims procedures under such plans; provided that either City of Flowery Branch or another designated claims fiduciary shall be responsible for appeals under such claims procedures. NFP will endeavor to resolve all billing issues with insurance carriers and vendors for the employee benefit plans they administer.
- J. Correction of Errors.** NFP will promptly notify City of Flowery Branch of any errors or failures of administration of the selected benefit plans, identify possible corrections, and assist in the correction(s) directed by City of Flowery Branch.

2. Disclosure and Record Keeping

- A. Full Disclosure.** City of Flowery Branch has the right to approve any arrangements and/or the utilization of any intermediaries in connection with, or arising out of, or in any way related to the insurance and risk management program. NFP must seek approval

from City of Flowery Branch prior to the use of any of the above in connection with the City of Flowery Branch insurance and risk management program.

- B. Record Keeping.** NFP will maintain accurate and current files including, but not limited to, insurance policies and correspondence with insurers or vendors in accordance with industry standard record retention practice or as otherwise directed by City of Flowery Branch.

3. Term & Termination

- A. Term.** Subject to earlier termination under Section 3(B), the initial term of this Agreement shall commence on August 1, 2022 for a three year contract, and thereafter this Agreement is renewable for two additional one-year terms, subject to review of services and fees by City of Flowery Branch and NFP. Thereafter, this Agreement will remain in effect until terminated as described below.

- B. Termination.** This Agreement may be terminated by either party only as follows:

- a) Effective upon thirty (30) days advance written notice to the other party stating that such other party is in breach of any of the provisions of this Agreement, provided such breach (if able to be cured) is not cured within fifteen (15) days after the notice is received;
- b) Effective upon sixty (60) days advance written notice to the other party given with or without reason; provided such notice is given after the Initial Term; or
- c) By mutual written agreement of the parties.

4. Cost of Services

NFP commission or service fee income is based upon the expenses of the firm. City of Flowery Branch will review and approve the commission or service fee income on each line of coverage.

The commission or service fee income offsets NFP's expenses relating to personnel, technology and other fixed and variable costs related to the operation of its firm.

NFP's will be paid by standard carrier commissions included in the benefit plans.

5. Personnel

NFP will assign its personnel according to the needs of City of Flowery Branch and according to the disciplines required to complete the appointed task in a professional manner. NFP retains the right to substitute personnel with reasonable cause. The Account Management Team consists of the following individuals:

Primary Client Service Team:	Tammi Starkey, Senior Vice President Cindy Drury, Senior Account Manager
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6. City of Flowery Branch Responsibilities

City of Flowery Branch will make available such reasonable information as required for NFP to conduct its services. Such data will be made available as promptly as possible. It is understood by NFP that the time of City of Flowery Branch personnel is limited, and NFP's judicious use of that time is a requirement of this Agreement.

7. Records and Information

NFP understands and agrees to limit its use and disclosure of Confidential Information as defined and described in Exhibit 1, and Protected Health Information as defined and described in Exhibit 2.

8. Independent Contractor.

It is understood and agreed that NFP is engaged by City of Flowery Branch to perform services under this Agreement as an independent contractor. NFP agrees to follow written, oral, or electronically transmitted (i.e. sent via facsimile or e-mail) instructions from City of Flowery Branch as to policy and procedure. City of Flowery Branch does not indemnify private third-parties as doing so is in violation of the gratuities clause of the Georgia Constitution and in violation of Georgia case law.

9. Fiduciary Responsibility.

City of Flowery Branch acknowledges that: (i) NFP shall have no discretionary authority or discretionary control with respect to the management of any of the employee benefit plans other than as claims administrator under Section 1(I); (ii) NFP shall exercise no authority or control with respect to management or disposition of the assets of City of Flowery Branch employee benefit plans; and (iii) NFP shall perform services pursuant to this Agreement in a non-fiduciary capacity. City of Flowery Branch agrees to notify NFP as soon as possible of any proposed amendments to the plans' legal documents to the extent that the amendments would affect NFP in the performance of its obligations under this Agreement. City of Flowery Branch agrees to submit (or cause its agent, NFP, or vendors to submit) all information in its (or their) control reasonably necessary for NFP to perform the services covered by this Agreement.

10. Non-disclosure.

Except as otherwise provided by law, NFP agrees not to disclose its participation in this undertaking, the existence or terms and conditions of the Agreement, or the fact that discussions are being held with City of Flowery Branch.

11. Governing Law and Equitable Relief.

This Agreement shall be governed and construed in accordance with the laws of the United States and the State of Georgia and NFP consents to the exclusive jurisdiction of the state courts and U.S. federal courts serving City of Flowery Branch, Georgia for any dispute arising out of this Agreement. NFP agrees that in the event of any breach or threatened breach by NFP, City of Flowery Branch may obtain, in addition to any other

legal remedies which may be available, such equitable relief as may be necessary to protect City of Flowery Branch against any such breach or threatened breach.

12. Final Agreement.

This Agreement terminates and supersedes all prior understandings or agreements on the subject matter hereof between the parties. This Agreement may be modified only by a further writing that is duly executed by both parties.

13. Severability.

If any term of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, then this Agreement, including all of the remaining terms, will remain in full force and effect as if such invalid or unenforceable term had never been included.

14. Notices.

Any notice required by this Agreement or given in connection with it, shall be in writing and shall be given to the appropriate party by personal delivery or by certified mail, postage prepaid, or recognized overnight delivery services.

If to City of Flowery Branch:

City of Flowery Branch
5410 Pine St
Flowery Branch, GA 30542

If to NFP:

NFP
Attention: Tammi Starkey
351 Washington Ave, Suite 120
Marietta, GA 30060

15. No Implied Waiver

Either party's failure to insist in any one or more instances upon strict performance by the other party of any of the terms of this Agreement shall not be construed as a waiver of any continuing or subsequent failure to perform or delay in performance of any term hereof.

16. Entire Agreement

This constitutes the entire Agreement between the parties, and any other warranties or agreements are hereby superseded. Subsequent amendments to this Agreement shall only be in writing signed by both parties.

IN WITNESS WHEREOF, the undersigned have executed this Agreement.

City of Flowery Branch

NFP

Signed: _____

Signed: _____

Date: _____

Date: _____

Name (Print): _____

Name (Print): _____

Title: _____

Title: _____

Exhibit 1

Confidentiality Agreement

This Confidentiality Agreement hereinafter referred to as “Agreement” is between City of Flowery Branch, Georgia, hereinafter referred to as “City of Flowery Branch” and NFP, Corp., hereinafter referred to as “NFP.”

1. Confidential Information.

City of Flowery Branch proposes to disclose certain of its confidential information (the "Confidential Information") to NFP. Confidential Information shall include, without limitation, names, Social Security Numbers, dates of birth, hire dates, job titles, salary, financial information, information which a reasonable person would know constitutes proprietary information, and other information disclosed or submitted, orally, in writing, or by any other media, to NFP by City of Flowery Branch. Confidential Information disclosed orally shall be identified as such within five (5) days of disclosure. Nothing herein shall require City of Flowery Branch to disclose any of its information.

2. NFP Obligations.

A. NFP agrees that the Confidential Information is to be considered confidential and proprietary to City of Flowery Branch and NFP shall hold the same in confidence, shall not use the Confidential Information other than for the purposes of its business with City of Flowery Branch, and shall disclose it only to its officers, directors, or employees with a specific need to know and to insurance carriers and vendors for the purpose of developing proposals and implementing employee benefit plans. NFP will not disclose, publish or otherwise reveal any of the Confidential Information received from City of Flowery Branch to any other party whatsoever except with the specific prior written authorization of City of Flowery Branch.

B. Confidential Information furnished in tangible form shall not be duplicated by NFP except for purposes of this Agreement. Upon the request of City of Flowery Branch, NFP shall return all Confidential Information received in written or tangible form, including copies, or reproductions or other media containing such Confidential Information, within ten (10) days of such request. At NFP option, and except as otherwise provided by law, any documents or other media developed by NFP containing Confidential Information may be destroyed by NFP. NFP shall provide a written certificate to City of Flowery Branch regarding destruction within ten (10) days thereafter.

C. Notwithstanding anything in this Agreement to the contrary, NFP will abide by and preserve any Confidential Information subject to a “litigation hold” at the direction of City of Flowery Branch.

3. Term.

The obligations of NFP herein shall be effective from the date City of Flowery Branch first discloses any Confidential Information to NFP pursuant to this Agreement, and shall survive the termination or expiration of this Agreement. Further, the obligation not to disclose shall not be affected by bankruptcy, receivership, assignment, attachment or seizure procedures, whether

initiated by or against NFP, nor by the rejection of any agreement between City of Flowery Branch and NFP, by a trustee of NFP in bankruptcy, or by the NFP as a debtor-in-possession or the equivalent of any of the foregoing under local law.

4. Other Information.

NFP shall have no obligation under this Agreement with respect to Confidential Information which is or becomes publicly available without breach of this Agreement by NFP; is rightfully received by NFP without obligations of confidentiality; or is developed by NFP without breach of this Agreement; provided, however, such Confidential Information shall not be disclosed until thirty (30) days after written notice of intent to disclose is given to City of Flowery Branch along with the asserted grounds for disclosure.

5. No License.

Nothing contained herein shall be construed as granting or conferring any rights by license or otherwise in any Confidential Information. It is understood and agreed that neither party solicits any change in the organization, business practice, service or products of the other party, and that the disclosure of Confidential Information shall not be construed as evidencing any intent by a party to purchase any products or services of the other party nor as an encouragement to expend funds in development or research efforts. Confidential Information may pertain to prospective or unannounced products or services. NFP agrees not to use any Confidential Information as a basis upon which to develop or have a third party develop a competing or similar product.

6. Non-disclosure.

NFP agrees not to disclose its participation in this undertaking, the existence or terms and conditions of the Agreement, or the fact that discussions are being held with City of Flowery Branch.

7. Governing Law and Equitable Relief.

This Agreement shall be governed and construed in accordance with the laws of the United States and the State of Georgia and NFP consents to the exclusive jurisdiction of the state courts and U.S. federal courts serving City of Flowery Branch, Georgia for any dispute arising out of this Agreement. NFP agrees that in the event of any breach or threatened breach by NFP, City of Flowery Branch may obtain, in addition to any other legal remedies which may be available, such equitable relief as may be necessary to protect City of Flowery Branch against any such breach or threatened breach.

8. Final Agreement.

This Agreement terminates and supersedes all prior understandings or agreements on the subject matter hereof. This Agreement may be modified only by a further writing that is duly executed by both parties.

9. No Assignment.

NFP may not assign this Agreement or any interest herein without City of Flowery Branch's express prior written consent.

10. Severability.

If any term of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, then this Agreement, including all of the remaining terms, will remain in full force and effect as if such invalid or unenforceable term had never been included.

11. Notices.

Any notice required by this Agreement or given in connection with it, shall be in writing and shall be given to the appropriate party by personal delivery or by certified mail, postage prepaid, or recognized overnight delivery services.

If to City of Flowery Branch:

City of Flowery Branch
5410 Pine St
Flowery Branch, GA 30542

If to NFP:

NFP, Inc.
Attention: Tammi Starkey
351 Washington Ave, Suite 120
Marietta, GA 30060

12. No Implied Waiver.

Either party's failure to insist in any one or more instances upon strict performance by the other party of any of the terms of this Agreement shall not be construed as a waiver of any continuing or subsequent failure to perform or delay in performance of any term hereof.

IN WITNESS WHEREOF, the undersigned have executed this Agreement.

City of Flowery Branch

NFP, Inc.

Signed: _____

Signed: _____

Date: _____

Date: _____

Name (Print): _____

Name (Print): _____

Title: _____

Title: _____

Exhibit 2

Business Associate Agreement

This Business Associate Agreement, hereinafter referred to as “Agreement”, is between City of Flowery Branch, Georgia, hereinafter referred to as “Covered Entity” and NFP Corp., hereinafter referred to as “Business Associate”.

Recitals

WHEREAS, the purpose of this Agreement is to assure the privacy and security of Protected Health Information and Electronic Protected Health Information in accordance with the regulations (the “HIPAA Rules”) issued by the Department of Health and Human Services (“HHS”) under the Health Insurance Portability and Accountability Act of 1996 as codified at 42 U.S.C. §1320d (“HIPAA”) as amended by the Health Information Technology for Economic and Clinical Health Act as codified at 42 U.S.C.A. prec. § 17901 (“HITECH”), enacted as part of the American Recovery and Reinvestment Act (“ARRA”); and

WHEREAS, Covered Entity has engaged Business Associate to perform services on its behalf;

WHEREAS, Covered Entity possesses Individually Identifiable Health Information that is protected under HIPAA, the HIPAA Privacy Regulations, the HIPAA Security Regulations and the HITECH Standards and is permitted to use or disclose such information only in accordance with such laws and regulations;

WHEREAS, Business Associate may receive such information from Covered Entity or create and receive such information on behalf of Covered Entity;

WHEREAS, Covered Entity wishes to ensure that Business Associate will appropriately safeguard Individually Identifiable Health Information;

NOW THEREFORE, for good and valuable consideration, the sufficiency of which we hereby acknowledge, the Parties agree as follows:

Article I

Definitions

1.1 Catch-all definitions. The following terms used in this Agreement shall have the same meaning as those terms in HIPAA, the HITECH Act, and any current and future regulations promulgated under HIPAA or HITECH: Data Aggregation, Designated Record Set, Disclosure, Health Care Operations, Individual, Minimum Necessary, Notice of Privacy Practices, Protected Health Information, Required By Law, Secretary, Security Incident, Subcontractor, Unsecured Protected Health Information, and Use.

1.2 Specific definitions:

(a) Breach. “Breach” shall mean the acquisition, access, use or disclosure of

“HIPAA Privacy Regulations”) which compromises the security or privacy of the Protected Health Information. “Breach” shall not include:

- (i) Any unintentional acquisition, access, or use of Protected Health Information by a workforce member or person acting under the authority of Covered Entity or Business Associate, if such acquisition, access or use was made in good faith and within the scope of authority and does not result in further use or disclosure in a manner not permitted under the HIPAA Privacy Regulations; or
- (ii) Any inadvertent disclosure by a person who is authorized to access Protected Health Information at Covered Entity or Business Associate to another person authorized to access Protected Health Information at Covered Entity or Business Associate, respectively, and the information received as a result of such disclosure is not further used or disclosed in a manner not permitted under the HIPAA Privacy Regulations; or
- (iii) A disclosure of Protected Health Information where Covered Entity or Business Associate has a good faith belief that an unauthorized person to whom the disclosure was made would not reasonably have been able to retain such information.

(b) Business Associate. “Business Associate” shall generally have the same meaning as the term “business associate” at 45 CFR 160.103, and in reference to the Party to this Agreement, shall mean the person/entity named above.

(c) Covered Entity. “Covered Entity” shall generally have the same meaning as the term “covered entity” at 45 CFR 160.103, and in reference to the Party to this Agreement, shall mean the entity named above.

(d) Electronic Protected Health Information. “Electronic Protected Health Information” shall mean Protected Health Information that is transmitted by or maintained in electronic media as defined by the HIPAA Security Regulations.

(e) HIPAA Rules. “HIPAA Rules” shall mean the Privacy, Security, Breach Notification, and Enforcement Rules at 45 CFR Part 160 and Part 164.

(f) HITECH Standards. “HITECH Standards” shall mean the privacy, security and security Breach notification provisions applicable to a Business Associate under Subtitle D of the HITECH Act and any regulations promulgated thereafter.

(g) Individually Identifiable Information. “Individually Identifiable Information” means information that is a subset of health information, including demographic information collected from an individual, and:

- (i) is created or received by a health care provider, health plan, employer or health care clearinghouse; and
- (ii) relates to past, present, or future physical or mental health or condition of an individual; the provision of health care to an individual; or the past, present or future payment for the provision of health care to an individual; and

- (A) that identifies the individual; or
- (B) with respect to which there is a reasonable basis to believe the information can be used to identify the individual.

Article 2

Obligations and Activities of Business Associate

2.1 Limited Use or Disclosure of PHI. To the extent the Business Associate is to carry out one or more of Covered Entity's obligation(s) under Subpart E of 45 CFR Part 164, Business Associate agrees to comply with the requirements of Subpart E that apply to the Covered Entity in the performance of such obligation(s). Business Associate further agrees not use or disclose Protected Health Information other than as permitted or required by the Agreement, in furtherance of the services provided by Business Associate for Covered Entity, or as required by law. Business Associate will not sell Protected Health Information and Electronic Health Records or use or disclose Protected Health Information for marketing or fundraising purposes as set forth in 42 U.S.C. § 17935(d) or 42 U.S.C. § 17936(a), respectively. The Business Associate shall secure Protected Health Information in accordance with 42 U.S.C. § 17932(h) and the related regulations at 45 CFR Part 14, subpart D, as well as any guidance issued by the Secretary that specifies secure technologies and methodologies such that Unsecured Protected Health Information is not maintained by the Business Associate.

2.2 Safeguards. The Business Associate shall implement and use appropriate safeguards to prevent the use or disclosure of PHI other than as permitted by this Agreement, including establishing procedures that limit access to PHI within its organization to those employees with a need to know the information. The Business Associate agrees that it will implement reasonable administrative, physical, and technical safeguards to protect the confidentiality, integrity and availability of electronic PHI that it creates, receives, maintains or transmits on behalf of the Covered Entity, as required by the HIPAA Rules.

Business Associate acknowledges and agrees that the administrative, physical and technical safeguards requirements of 45 CFR Sections 164.308, 164.310 and 164.312 shall apply to the Business Associate in the same manner that such sections apply to the Covered Entity. The Business Associate shall comply with the provisions of 45 CFR Part 164, Subpart C of the HIPAA Rules with respect to Electronic PHI to prevent any use or disclosure of PHI other than as permitted by this Agreement, and shall implement and maintain in written form reasonable and appropriate policies and procedures to comply with the standards, implementation specifications or other requirements of the HIPAA Rules, in accordance with 45 CFR. Section 164.316.

2.3 Notice of Use, Disclosure, Security Incident or Breach.

(a) Business Associate agrees to notify the designated Privacy Officer of the Covered Entity of any use or disclosure of Protected Health Information by Business Associate not provided for by the Agreement, including breaches of Unsecured Protected Health Information as required at 45 CFR 164.410, and any security incident of which it becomes aware without unreasonable delay, but in no case more than thirty (30) days following discovery of breach, including instances in which an agent or subcontractor has improperly used or disclosed PHI. For purposes of this Agreement, a Breach shall be treated as discovered as of the first day that the Business Associate knows of, or should reasonably have known of such Breach. Business Associate further agrees to provide the following information in such notice to Covered Entity:

- (i) the identification of each Individual whose Unsecured Protected Health Information has been, or is reasonably believed by Business Associate to have been, accessed, acquired, or disclosed during such Breach;
 - (ii) a description of the nature of the Breach including the types of Unsecured Protected Health Information that were involved, the date of the Breach and the date of discovery;
 - (iii) a description of the type of Unsecured Protected Health Information acquired, accessed, used or disclosed in the Breach (e.g., full name, social security number, date of birth, etc.);
 - (iv) the identity of the person who made and who received (if known) the unauthorized acquisition, access, use or disclosure;
 - (v) a description of what the Business Associate is doing to mitigate the damages and protect against future breaches; and
 - (vi) any other details necessary for Covered Entity to assess risk of harm to Individual(s), including identification of each Individual whose Unsecured Protected Health Information has been Breached and steps such Individuals should take to protect themselves.
- (b) Covered Entity will be responsible for providing notification to Individuals whose Unsecured Protected Health Information has been disclosed, as well as the Secretary and the media, as required by the HITECH Standards.
- (c) Business Associate agrees to establish procedures to investigate the Breach, mitigate losses, and protect against any future Breaches, and to provide a description of these procedures and the specific findings of the investigation to Covered Entity in the time and manner reasonably requested by Covered Entity.
- (d) The Parties agree that this section satisfies any notice requirements of Business Associate to Covered Entity of the ongoing existence and occurrence of attempted but Unsuccessful Security Incidents (as defined below) for which no additional notice to Covered Entity shall be required. For purposes of this Agreement, “Unsuccessful Security Incidents” include activity such as pings and other broadcast attacks on Business Associate’s firewall, port scans, unsuccessful log-on attempts, denials of service and any combination of the above, so long as no such incident results in unauthorized access, use or disclosure of Electronic Protected Health Information.

2.4 Mitigation. Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to Business Associate of a use or disclosure of Protected Health Information by Business Association in violation of this Agreement.

2.5 Subcontractors. Business Associate agrees to act in accordance with 45 CFR 164.502(e)(1)(ii) and 164.308(b)(2), if applicable, to ensure that any Subcontractors that create, receive, maintain, or transmit Protected Health Information on behalf of the Business Associate agree to the same restrictions, conditions, and requirements that apply to the Business Associate with respect to such information.

2.6 Access. Within ten (10) business days of a request by the Covered Entity for access to PHI about an Individual maintained by Business Associate in a Designated Record Set, the Business Associate shall make available to the Covered Entity such PHI for so long as such information is maintained in a Designated Record Set. In the event any Individual requests access to PHI directly from such Business Associate, the Business Associate shall notify Covered Entity and respond to the request for PHI within fifteen (15) business days. If the requested PHI is maintained electronically, Business Associate must provide a copy of the PHI in the electronic form and format requested by the Individual, if it is readily producible, or, if not, in a readable electronic form and format as agreed to by Covered Entity and the Individual. Any denials of access to the PHI requested shall be the responsibility of Covered Entity. Business Associate may charge Covered Entity or Individual for the actual labor cost involved in providing such access.

2.7 Security of Electronic Protected Health Information. Business Associate agrees to implement administrative, physical and technical safeguards that are reasonably and appropriately designed to protect the confidentiality, integrity and availability of Electronic Protected Health Information that it creates, receives, maintains or transmits on behalf of Covered Entity; (2) ensure that any agent, including a subcontractor, to whom it provides such information agrees in writing to implement reasonable and appropriate safeguards to protect it; and (3) report to the Covered Entity any security incidents of which it becomes aware in accordance with Section 2.3.

2.8 Minimum Necessary. Business Associate agrees to limit its uses and disclosures of, and requests for, Protected Health Information (a) when practical, to the information making up a Limited Data Set; and (b) in all other cases subject to the requirements of 45 CFR 164.502(b) and 42 U.S.C. § 17935(b), to the minimum amount of Protected Health Information necessary to accomplish the intended purpose of the use, disclosure or request.

2.9 Amendments. Business Associate agrees to make any amendment(s) to Protected Health Information in a Designated Record Set as directed or agreed to by the Covered Entity, upon request of Covered Entity or an Individual, pursuant to 45 CFR 164.526, or take other measures as necessary to satisfy Covered Entity's obligations under 45 CFR 164.526 within thirty (30) days.

2.10 Accounting. The Business Associate agrees to maintain and make available to the Covered Entity an accounting of disclosures of PHI made by Business Associate as would be required for the Covered Entity to respond to a request by an Individual made in accordance with 45 CFR 164.528. At a minimum, the accounting of disclosures shall include the following information:

- a. Date of disclosure;
- b. The name of the person or entity who received the PHI, and if known, the address of such entity or person;
- c. A brief description of the PHI disclosed; and
- d. A brief statement of the purpose of such disclosure which includes an explanation of the basis of such disclosure.

In the event the request for an accounting is delivered directly to the Business Associate, the Business Associate shall notify the Covered Entity and respond to the request within fifteen (15) business days. Any denials of a request for an accounting shall be the responsibility of Covered

Entity. The Business Associate agrees to implement an appropriate recordkeeping process to enable it to comply with the requirements of this Section.

Business Associate need not record disclosure information or otherwise account for disclosures of PHI that this Agreement or Covered Entity in writing permits or requires (i) for the purpose of Covered Entity's treatment activities, payment activities, or health care operations (except where such recording or accounting is required by the HITECH Act, and as of the effective dates for this provision of the HITECH Act); (ii) to the individual who is the subject of the PHI disclosed or to that individual's personal representative; (iii) to persons involved in that individual's health care or payment for health care; (iv) for notification for disaster relief purposes; (v) for national security or intelligence purposes; (vi) to law enforcement officials or correctional institutions regarding inmates; or (vii) pursuant to an authorization.

2.11 Disclosure of Practices, Books and Records. Business Associate agrees to make its internal practices, books, and records relating to the use and disclosure of Protected Health Information received from, or created or received by Business Associate on behalf of Covered Entity, available to Covered Entity or the Secretary in a time or manner designated by the Covered Entity or Secretary, for purposes of determining compliance with the HIPAA Rules.

Article 3

Permitted Uses and Disclosures by Business Associate

3.1 Permitted Use and Disclosure. Except as otherwise limited in this Agreement, Business Associate may use or disclose Protected Health Information to perform functions, activities, or services for, or on behalf of, Covered Entity provided that such use or disclosure would not violate the HIPAA Rules.

(a) Business Associate may use or disclose Protected Health Information as necessary to perform and in furtherance of the services to Covered Entity, which may include use and disclosure in databases, software and aggregation services available to Business Associate.

(b) Business Associate is authorized to use Protected Health Information to de-identify the information in accordance with 45 CFR 164.514(a)-(c).

(c) Business Associate may use or disclose Protected Health Information as required by law. Business Associate shall disclose the minimum amount necessary to satisfy the requirement and shall make reasonable efforts to obtain assurances that confidential treatment be accorded to Protected Health Information.

(d) Business Associate agrees to limit its uses and disclosures of, and requests for, Protected Health Information (i) when practical, to the information making up a Limited Data Set; and (ii) in all other cases to the minimum amount of Protected Health Information necessary to accomplish the intended purpose of the use, disclosure or request.

(e) Business Associate may use Protected Health Information for the proper management and administration of the Business Associate or to carry out the legal responsibilities of the Business Associate.

Article 4

Obligations of Covered Entity

4.1 Notice of Privacy Practices of Covered Entity. Covered Entity shall notify Business Associate in writing of any limitation(s) in the notice of privacy practices of covered entity under 45 CFR 164.520, to the extent that such limitation may affect Business Associate's use or disclosure of Protected Health Information.

4.2 Restrictions in Use of Protected Health Information. Covered Entity shall notify Business Associate in writing of any changes in, or revocation of, the permission by an individual to use or disclose his or her Protected Health Information, to the extent that such changes may affect Business Associate's use or disclosure of Protected Health Information.

4.3 Changes in the Use of Protected Health Information. Covered Entity shall notify Business Associate of any restriction on the use or disclosure of Protected Health Information that Covered Entity has agreed to or is required to abide by under 45 CFR 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of Protected Health Information.

4.4 Permissible Requests by Covered Entity. Except as otherwise provided in this Agreement, Covered Entity will not ask Business Associate to use or disclose Protected Health Information in any manner that would violate the HIPAA Rules or the HITECH Standard if done by Covered Entity.

Article 5

Term and Termination

5.1 Term. The initial term of this Agreement shall begin on the Effective Date and continue for the same term as set forth in the Broker Services and Consulting Agreement between the Parties remains in effect, subject to early termination under Section 5.2.

5.2 Termination for Cause. Upon either Party's reasonable determination that the other Party has committed a violation or material breach of this Agreement, the non-breaching Party may take one of the following steps:

(a) Provide an opportunity for the breaching Party to cure the breach or end the violation, and if the breaching Party does not cure the breach or end the violation within thirty (30) days, terminate this Agreement;

(b) Immediately terminate this Agreement if the other Party has committed a material breach of this Agreement and cure of the material breach is not possible as acknowledged by both parties; or

(c) If neither cure nor termination is feasible, elect to continue this Agreement and report the violation or material breach to the Secretary in accordance with the requirements set forth in the HIPAA Rules.

5.3 Obligations of Business Associate Upon Termination. Upon termination of this Agreement for any reason, Business Associate, with respect to Protected Health Information received from Covered Entity, or created, maintained, or received by Business Associate on behalf of Covered Entity, shall:

(a) Retain only that Protected Health Information which is necessary for Business Associate to continue its proper management and administration or to carry out its legal responsibilities;

(b) Return to Covered Entity or destroy the remaining Protected Health Information that the Business Associate still maintains in any form;

(c) Continue to use appropriate safeguards and comply with Subpart C of 45 CFR Part 164 with respect to Electronic Protected Health Information to prevent use or disclosure of the Protected Health Information, other than as provided for in this Section, for as long as Business Associate retains the Protected Health Information;

(d) Not use or disclose the Protected Health Information retained by Business Associate other than for the purposes for which such Protected Health Information was retained and subject to the same conditions set out at Section 3.1 which applied prior to termination; and

(e) Return to Covered Entity or, if agreed to by Covered Entity, destroy the Protected Health Information retained by Business Associate when it is no longer needed by Business Associate for its proper management and administration or to carry out its legal responsibilities.

(f) Notwithstanding anything to the contrary herein, Covered Entity authorizes Business Associate to transmit Protected Health Information to another business associate of Covered Entity.

5.4 Survival. The obligations of Business Associate under this Section shall survive the termination of this Agreement.

Article 6 Miscellaneous

6.1 Regulatory References. A reference in this Agreement to a section in the HIPAA Rules means the section as in effect or as amended.

6.2 Amendment. The Parties agree to take such action as is necessary to amend this Agreement from time to time as is necessary for compliance with the requirements of the HIPAA Rules and any other applicable law.

6.3 Interpretation. Any ambiguity in this Agreement shall be interpreted to permit compliance with the HIPAA Rules.

6.4 Prior Agreement. This Agreement shall replace and supersede any prior Business Associate Agreement between the Parties.

IN WITNESS WHEREOF, the undersigned have executed this Agreement.

City of Flowery Branch

NFP

Signed: _____

Signed: _____

Date: _____

Date: _____

Name (Print): _____

Name (Print): _____

Title: _____

Title: _____

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Award of Contract to NFP for Benefits Consulting and Brokerage Services.

DATE: 7/21/2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL-

() OTHER

CAPITAL-

COMMISSION ACTION REQUESTED ON: 7/21/2022

PURPOSE: From time to time, as a prudent practice, it is important for local governments to issue Request for Proposals for its consulting services to ensure its contracted services are still relevant and competitive.

HISTORY:

- Historically the city has outsourced the Benefits Consulting and Brokerage services.
 - Lanier Planning Corporation currently provides Benefits Consulting and Brokerage Services for the City of Flowery Branch.
-
-

FACTS AND ISSUES:

- Insurance expenses have increased each year with the market and as our city has grown.
 - As our city continues to grow, new and innovative benefits will become necessary to attract and retain qualified employees.
 - Epic Brokers, Lanier Planning, National Benefits Services Center, NFP, One Digital, Relation and Turner Wood & Smith all submitted proposals for services.
 - All proposals were evaluated and the top three (Epic Brokers, One Digital and NFP) were interviewed by the evaluation team.
 - After the interviews were completed, staff recommends NFP as the Benefits Consultant for the City of Flowery Branch.
 - NFP's team dedicated to Flowery Branch has over 80 years of combined experience.
 - NFP will provide an employee portal, so employees can manage their benefits.
 - NFP will provide increased communication through an annual benefits fair, monthly health initiatives emails and health initiatives podcast.
 - NFP will shop services annually to ensure the city and employees are receiving best value.
-
-

-
-
- NFP also provides support in six key areas: Strategic Planning, Financial Management, Benefits Administration, Health Risk Management and Well-Being, Teammate Engagement and Compliance and Legislative support.
-
-

OPTIONS: Approve staff recommendation or deny and remain with Lanier Planning.

RECOMMENDED SAMPLE MOTION:

I make a motion to execute the annual contract for Benefits Consulting and Brokerage Services with four 1yr extension options to NFP.

DEPARTMENT: Finance

Prepared by: Matt Hamby



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consideration of Approval of Change Order #3 for Mitchell Street Improvements Project

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

1. Inability to procure retaining wall blocks has caused the city to search for a block type that was available immediately. The resulting choice is more expensive than the original, necessitating a change order. 2. Flexible pipe downspouts were connected to flow wells that were placed in the sanitary sewer easement. Construction of the sewer line removed these flow wells and we need to extend the downspouts flexible pipes through the wall.

FACTS AND ISSUES:

See History.

OPTIONS:

Approve or Deny.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$32,002 - SPLOST

RECOMMENDATION:

Approve change order #3 for a wall block alternative and connecting downspouts for the Mitchell Street Improvement Project.

SAMPLE MOTION:

I move to approve Mitchell Street Improvements Project change order #3 in the amount of \$32,002.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [G701-2017 - Final_City of Flowery Branch.pdf](#)
- [Change order 3 per RFI#4#5#6.pdf](#)

- [Executive Summary - Mitchell Street Improvements - Change Order 3.pdf](#)



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Document G701™ – 2017

Change Order

PROJECT: *(Name and address)*
Flowerly Branch - Mitchell St
Improvement Project

OWNER: *(Name and address)*
City of Flowerly Branch
PO Box 757
5410 Pine Street
Flowerly Branch, GA 30542

CONTRACT INFORMATION:
Contract For: Summit Construction and
Development, LLC
Date: NTP: 10/26/2020

ARCHITECT: *(Name and address)*
CPL Architecture Engineering &
Planning
3011 Sutton Gate Drive, Suite 130
Suwanee, GA 30024

CHANGE ORDER INFORMATION:
Change Order Number: 3

Date: 6/22/2022

CONTRACTOR: *(Name and address)*
Summit Construction and
Development, LLC
2108 Bentley Drive
Stone Mountain, GA 30087

THE CONTRACT IS CHANGED AS FOLLOWS:

(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)

1. For the wall referenced in Change Order 1, use Kodah block instead of Stonegate Retaining Wall Blocks by Tremron (see attached summary). - \$14,602.00
2. Adjust 1 additional manhole (3 feet) - \$2500.00
3. Incorporate flexible downspout pipes from lots 40 thru 52 through the wall - 14 @ \$850.00 each = \$14,900

The original Contract Sum was	\$	361,693.21
The net change by previously authorized Change Orders	\$	169,605.00
The Contract Sum prior to this Change Order was	\$	531,298.21
The Contract Sum will be increased by this Change Order in the amount of	\$	32,002.00
The new Contract Sum including this Change Order will be	\$	563,300.21

The Contract Time will be increased by Zero (0) days.

The new date of Substantial Completion will be 4/7/2022

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

CPL Architecture Engineering & Planning

ARCHITECT *(Firm name)*

SIGNATURE

Rich Edinger, P.E. Vice President

PRINTED NAME AND TITLE

DATE

Summit Construction and Development,
LLC

CONTRACTOR *(Firm name)*

SIGNATURE

Ruben Duran, President

PRINTED NAME AND TITLE

DATE

City of Flowerly Branch

OWNER *(Firm name)*

SIGNATURE

Tonya Parrish, City Manager

PRINTED NAME AND TITLE

DATE



Project 20-054

SUMMIT CONSTRUCTION & DEVELOPMENT, LLC
2108 BENTLEY DRIVE, STONE MOUNTAIN, GA 30087
Tel (770) 413-0093 Ext. 804 / Fax (770) 413-0050
sdestimator@summitcd.com

PROPOSED CHANGE ORDER #3

Date: 6/16/2022

Project: Mitchell Street Infrastructure - City of Flowery Branch
Location: Flowery Branch, GA

(Company): CPL Team
Phone: 678-318-1243
Email: jmueller@cplteam.com

Attention: Jeffrey W. Mueller, P.E

Item Number	Item Description	Qty	Units	Unit Price	Total Price
<u>Per RFI4.#5,#6</u>					
1	Downspouts for Lot#40 to Lot#52	14	EA	\$ 850.00	\$ 11,900.00
2	Adjust SSMH to grade - 3'	1	EA	\$ 2,500.00	\$ 2,500.00
Total Estimated Addition					\$14,400.00

Terms and Conditions:

1. Scope of Work: Contractor agrees to furnish all material, labor, installation, insurance, equipment, and tools required for the prompt and efficient execution of the work described herein in a professional and workmanlike manner.

2. Quote Amount. Owner agrees to pay Contractor for the strict performance of his work, the sum as indicated above subject to additions and deductions for changes in the scope of work as may be subsequently agreed upon. Due to current fluctuations in the materials markets, the proposal price is based upon material pricing as of the proposal date. This proposal price is valid for 30 days.

3. Disclaimer:

Due to the constant fluctuation in material costs and fuel, pricing is subject to change. If completion is delayed as a result of major or unforeseen circumstances including but not limited to any strike, lockout, shortage of materials, riot, political or civil disturbance, exceptionally inclement weather, or any variation, act, or omission on the part of the Owner, its representative or any other cause beyond the control of Summit Construction & Development LLC, then the Owner shall not for such reason have any claim against Summit Construction & Development LLC whether for damages or otherwise; The Owner agrees to hold Summit Construction & Development LLC harmless and Summit Construction & Development LLC shall be entitled to a fair and reasonable amount of time for the completion of all works contracted.

Exclusions:

1. Any other items than above mentions scope of work.
2. Testing or any engineering services.

Approval:

Signed By:

AN

Ajay Naidu

Sr. Estimator

Summit Construction and Development, LLC

Date 06/16/2022

Accepted By:

Owner:

Date _____

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Mitchell Street Improvements – Change Order 3 – Wall Block and Downspouts

DATE: July 14, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- No change

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorize a wall block alternative and connecting downspouts through the retaining wall.

HISTORY: 1. Inability to procure retaining wall blocks has caused the city to search for a block type that was available immediately. The resulting choice is more expensive than the original, necessitating a change order. 2. Flexible pipe downspouts were connected to flow wells that were placed in the sanitary sewer easement. Construction of the sewer line removed these flow wells and we need to extend the downspouts flexible pipes through the wall.

FACTS AND ISSUES: See History.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I move to approve Mitchell Street Improvements Change Order 3.

DEPARTMENT: Administration

Prepared by: Rich Edinger



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consideration of Approval of Change Order #4 for the Farmers Market Project

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The Farmers Market Alley was an addition to the TRG Residential building on Main Street. to enhance the connection between Main Street and the Farmers Market structure. CPL created some conceptual designs to enhance the alley, and the city asked TRG to build it. TRG constructed the wall, but the final design implementation was left to the city. CPL created construction documents from the concept drawings and Triscapes has priced the changes.

Additionally, because Antebellum refused to grant the city a construction easement for a wall adjacent to their porch, CPL redesigned the Main Street streetscape in this area. This change order reflects credits associated with those changes. Finally, this change order also addresses a storm water pipe conflict.

FACTS AND ISSUES:

Triscapes has priced the finishes to the Farmers Market Alley, which includes modifications to the Depot stairs and handrail, additional pavers, the trellis, brick façade, lighting and security camera allowance, shutters, archway, fencing, landscaping and furniture. See the price breakdown for more detail.

Triscapes has credited the city for the Antebellum wall and priced landscaping, concrete banding, and pavers. See the price breakdown for more detail.

Triscapes has priced tying an unforeseen stormwater pipe into the existing system. See the price break down for more detail.

The city is deleting the four wheel stops that were part of the Antebellum easement deal that is not moving forward. We put the wheel stops into the contract in change order 3.

This change order will increase the contract by \$236,529.08 and add 90 days. The new contract completion date is November 3, 2022.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$236,529.08 - Transfer from Prior Year Surplus in the General Fund

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve Change Order #4 for the Farmers Market Project.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary - Change Order 4 - FM Alley.pdf](#)
- [G701-2017 - Final -CO # 004_Flowery Branch Farmers Market.pdf](#)
- [Supporting Documentation - CO 4.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Change Order 4 for Farmers Market Project

DATE: July 14, 2022

BUDGET INFORMATION:

ANNUAL- No change

CAPITAL- No change

(X) RECOMMENDATION

() POLICY DISCUSSION

() STATUS REPORT

() OTHER

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing Change Order 4 for Farmers Market Alley design implementation, Antebellum design changes, utility conflicts.

HISTORY: The Farmers Market Alley was an addition to the TRG Residential building on Main Street. to enhance the connection between Main Street and the Farmers Market structure. CPL created some conceptual designs to enhance the alley, and the city asked TRG to build it. TRG constructed the wall, but the final design implementation was left to the city. CPL created construction documents from the concept drawings and Triscapes has priced the changes. Additionally, because Antebellum refused to grant the city a construction easement for a wall adjacent to their porch, CPL redesigned the Main Street streetscape in this area. This change order reflects credits associated with those changes. Finally, this change order also addresses a storm water pipe conflict.

FACTS AND ISSUES: Triscapes has priced the finishes to the Farmers Market Alley, which includes modifications to the Depot stairs and hand rail, additional pavers, the trellis, brick façade, lighting and security camera allowance, shutters, archway, fencing, landscaping and furniture. See the price breakdown for more detail.

Triscapes has credited the city for the Antebellum wall and priced landscaping, concrete banding and pavers. See the price breakdown for more detail.

Triscapes has priced tying an unforeseen stormwater pipe into the existing system. See the price breakown for more detail.

The city is deleting the four wheel stops that were part of the Antebellum easement deal that is not moving forward. We put the wheel stops into the contract in change order 3.

This change order will increase the contract by \$236,529.08 and add 90 days. The new contract completion date is November 3, 2022.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I move to approve Change Order 4 for the Farmers Market project.

DEPARTMENT: Administration

Prepared by: Rich Edinger

**AIA**[®]**Document G701™ – 2017****Change Order****PROJECT:** *(Name and address)*
Flowery Branch Farmers Market,
Streetscapes & Pocket Park**CONTRACT INFORMATION:**

Contract For: 15429.00

Date: NTP 6-1-2021

CHANGE ORDER INFORMATION:

Change Order Number: 04

Date: 7-7-2022

OWNER: *(Name and address)*
City of Flowery Branch
5410 Pine Street**ARCHITECT:** *(Name and address)*
CPL
3011 Sutton Gate Drive, Suite 130,
Suwanee GA 30024**CONTRACTOR:** *(Name and address)*
Tri Scapes
1595 Peachtree Pkwy #204-396

Flowery Branch, GA 30078

Cumming, GA 30041

THE CONTRACT IS CHANGED AS FOLLOWS:*(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)*

1. Subtract 4 curb stops from Antebellum parking lot @ \$250 each - (\$1,000.00)
2. Construct Changes to Farmers Market Alley - \$414,732.00
3. Speaker and Security Camera Allowance - \$12,000.00
4. Take Credit for Antebellum streetscape re-design - (\$67,710.53)
5. Intercept unforeseen 15 inch RCP Pipe - \$7,650.00
6. Take Remaining contingency credit - (\$129,142.39)

Remaining contingency is (\$0.00) zero after executing this change order.

The original Contract Sum was	\$	4,011,350.00
The net change by previously authorized Change Orders	\$	0.00
The Contract Sum prior to this Change Order was	\$	4,011,350.00
The Contract Sum will be increased by this Change Order in the amount of	\$	236,529.08
The new Contract Sum including this Change Order will be	\$	4,247,879.08

The Contract Time will be increased by Ninety (90) days.

The new date of Substantial Completion will be 11-3-2022

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.CPL
ARCHITECT *(Firm name)*Triscapes
CONTRACTOR *(Firm name)*City of Flowery Branch
OWNER *(Firm name)***SIGNATURE**Rich Edinger, P.E., Vice President
PRINTED NAME AND TITLE**SIGNATURE**Ryan Hogan, Vice President
PRINTED NAME AND TITLE**SIGNATURE**Tonya Parrish, City Manager
PRINTED NAME AND TITLE**DATE****DATE****DATE**



Company Address 1595 Peachtree Parkway
Suite 204-396
Cumming, GA 30041
United States

Created Date 6/24/2022
Prepared By Ryan Hogan
Email ryan@triscapes.com

Reference CO_#05_ Farmers Market Alley

Product	Line Item Description	Quantity	UOM	Unit Price	TSI Total Price
Demolition	Remove Existing Wood Stairs & Associated Painted Metal Handrails & Guardrails	140.00	SF	\$7.50	\$1,050.00
Railing	Add railing where stairs were removed (to match existing)	20.00	LF	\$114.38	\$2,287.60
Fencing	2x6 Wood Slatted Privacy Screen Wall w 3/4" Gaping to Hide Underside of Deck (Continuous)	150.00	LF	\$86.25	\$12,937.50
Grading Complete	incl. cut, fill, materials testing, shop drawings, project management, etc.	1.00	LS	\$5,000.00	\$5,000.00
Electrical	Incl. all light fixtures, pole bases, conduit lines, string lights & archway lighting	1.00	LS	\$58,320.00	\$58,320.00
Electrical	Speakers and Security Camera's (low voltage wiring)	1.00	Allowance	\$12,000.00	\$12,000.00
Archway	Fabricated Steel Painted Archway Structure, 1" Deep Fabricated Painted Non-Illuminated Letters (Copy: FARMERS MARKET, 12" tall), Aluminum Clearance Bar (Painted 2" x 10" Tube, Vinyl Copy) - Overall Size: 11' 11-3/4" x 15'-6"	1.00	LS	\$48,720.00	\$48,720.00
Permit(s)	Archway Permit	1.00	LS	\$750.00	\$750.00
Brick Wall(s)	incl. EIFS system, & all brick, rebar, grout, masonry fasteners, stucco, steel & wood members, Trellis System (incl. all wood members, bolts, fasteners, concrete footings, & Wood Bench	1.00	LS	\$124,800.00	\$124,800.00
Shutter(s)	Non-operational Wood Shutters	5.00	EA	\$487.50	\$2,437.50
Hardscape	12" Thick, 4,000 psi w/ 5% Air Entrained Fiber Mesh, Gray Color, Finish Smooth Troweled Finish. Concrete Banding - Pavillion/Amphitheatre	280.00	SF	\$19.50	\$5,460.00
Pavers	Field Paver - Pavillion/Amphitheatre - Pavestone, Venetian Flag (60mm) Mocha Blend Heritage Color, AND 1" Mortar, AND Geotextile Fabric, AND 4" Thick 3,500 psi Concrete	215.00	SF	\$27.94	\$6,007.10
Pavers	Band Paver - Pavillion/Amphitheatre - Pavestone, Venetian Stone, Size 6x9x60mm Charcoal Color, AND 1" Mortar, AND Geotextile Fabric, AND 4" Thick 3,500 psi Concrete	100.00	SF	\$27.94	\$2,794.00
Landscape Mulch	4" Shredded Aged Hardwood Mulch	2.00	CY	\$121.88	\$243.76
Landscape - Trees	6' Min. Ht. x 2" Min. Cal. (B&B) Carpinus Caroliniana, Iron Wood Tree	2.00	EA	\$412.50	\$825.00
Site Furnishings	Teak Stacking Armchair by Country Casual Teak (Foxhall Collection)	50.00	EA	\$1,931.25	\$96,562.50
Site Furnishings	36" Round Teak Dining Tables by Country Casual Teak (Foxhall Collection)	17.00	EA	\$2,737.50	\$46,537.50

Total Price

\$426,732.46

Proposal Notes

Proposal Notes

1) This Change Order becomes part of and in conformance with the existing Contract.



2) Added Contract Workdays is not an added-in Contract cost/charge/expense but an estimated number of additional work days needed to complete this Change Order request.

3) No Addendum(s) are acknowledged.

***Change Order priced per plan pages (dated on or before

Note: Price good for 15 days

Approval

Company/Owner/Representative: _____

Authorized Signature: _____

Date: _____

*****NOTE: Prices good for 15 Days*****

CITY OF FLOWERY BRANCH FARMERS MARKET ALLEY

FLOWERY BRANCH, GEORGIA 30542



ARCHITECTURE | ENGINEERING | PLANNING

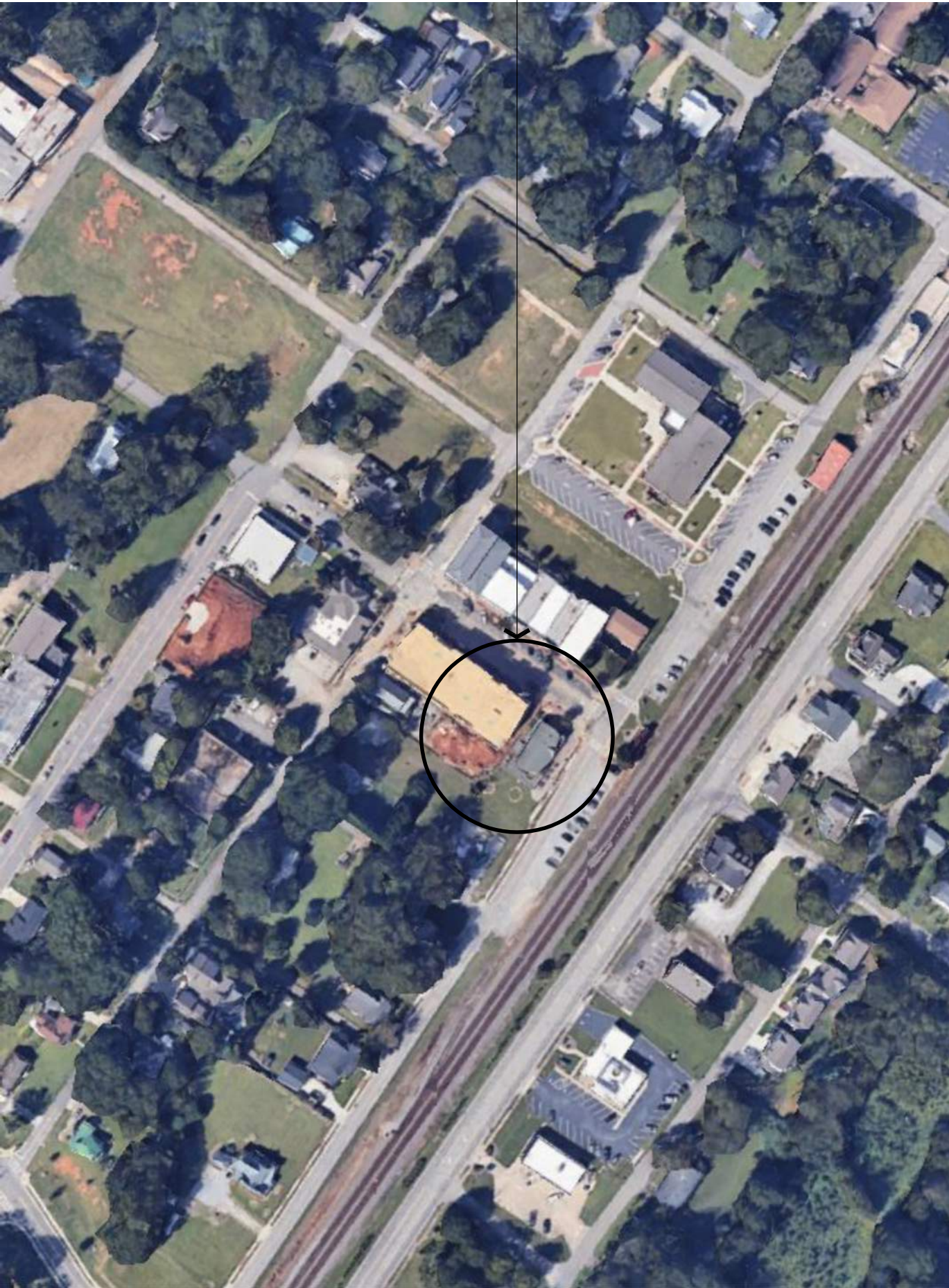
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(800) 274-9000
www.CPLteam.com



CITY OF FLOWERY BRANCH
5410 PINE STREET
FLOWERY BRANCH, GA 30542
(770) 967-6371

FARMERS
MARKET ALLEY
PROJECT

FLOWERY BRANCH,
GEORGIA 30542

PROJECT DIRECTORY	BUILDING INFORMATION	APPLICABLE CODES	VICINITY MAP
OWNER INFORMATION: CITY OF FLOWERY BRANCH ADDRESS: 5410 PINE STREET FLOWERY BRANCH, GEORGIA 30542 CONTACT: RICH ATKINSON PHONE: (770) 967-6371 EMAIL: rich@flowerybranchga.org CONSULTANT INFORMATION: ARCHITECT: CPL ADDRESS: 3011 SUTTON GATE DRIVE, SUITE 130 SUWANEE, GEORGIA 30024 CONTACT: MARK BAUMGART PHONE: (770) 861-7105 EMAIL: mbaumgart@cplteam.com ELECTRICAL: SAVANT ENGINEERING ADDRESS: 5064 ROSWELL ROAD, SUITE D-301 SANDY SPRINGS, GEORGIA 30342 CONTACT: JEFF LACEY PHONE: (770) 265-3006 EMAIL: jlacey@savanteng.com	1. OCCUPANCY CLASSIFICATION: A. 2018 INTERNATIONAL BUILDING CODE: GROUP U 2. TYPE OF CONSTRUCTION: TYPE VB 3. SPRINKLERED (OR) UNSPRINKLERED: UNSPRINKLERED 4. FIRE ALARM: NO 5. BASEMENT AREA: NO 6. BUILDING AREA: 1,780 SQUARE FEET 7. OCCUPANT LOAD: N/A 8. NUMBER OF STORIES: ONE (1) 9. BUILDING CODE HEIGHT LIMIT: 60 FEET 10. PROJECT BUILDING HEIGHT: 12 FEET	INTERNATIONAL BUILDING CODE - 2018 EDITION WITH 2020, 2022 GEORGIA STATE AMENDMENTS INTERNATIONAL FUEL GAS CODE - 2018 EDITION WITH 2020, 2022 GEORGIA STATE AMENDMENTS INTERNATIONAL MECHANICAL CODE - 2018 EDITION WITH 2020 GEORGIA STATE AMENDMENTS INTERNATIONAL PLUMBING CODE - 2018 EDITION WITH 2020, 2022 GEORGIA STATE AMENDMENTS INTERNATIONAL ENERGY CONSERVATION CODE - 2015 EDITION WITH 2020, 2022 GEORGIA STATE SUPPLEMENTS AND AMENDMENTS NFPA 70 NATIONAL ELECTRICAL CODE - 2020 EDITION (WITH GEORGIA AMENDMENTS 2021) INTERNATIONAL EXISTING BUILDING CODE - 2012 EDITION WITH 2015 GEORGIA STATE AMENDMENTS NFPA CODES AND STANDARDS - CURRENT ADOPTED EDITIONS NFPA 101 LIFE SAFETY CODE - 2018 EDITION WITH 2020 GEORGIA STATE FIRE COMMISSIONER AMENDMENTS 120-3-3-.04(72) INTERNATIONAL FIRE CODE - 2018 EDITION WITH 2020 GEORGIA STATE FIRE COMMISSIONER AMENDMENTS 120-3-3-.04 GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20 (.01-.08) WITH 2020 GEORGIA STATE FIRE COMMISSIONER AMENDMENTS 120-3-3-.08 THROUGH .11 - 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN O.C.G.A. TITLE 25 (STATE FIRE LAW) O.C.G.A. TITLE 30 (ACCESS TO AND USE OF PUBLIC FACILITIES BY PERSONS WITH DISABILITIES)	LOCATION OF PROJECT 
	DRAWING INDEX	SCOPE OF WORK	
	ARCHITECTURAL: C5 COVER SHEET N-1 NOTES EX-1 EXISTING SITE PLAN D-1 DEMOLITION SITE PLAN A-1 ARCHITECTURAL SITE PLAN A-2 WALL DETAILS AND SECTIONS A-3 WALL ELEVATIONS AND DETAILS A-4 ARCHWAY DETAILS AND SECTIONS E101 ELECTRICAL INSTALLATION DETAILS, SYMBOL LIST, AND LIGHTING FIXTURE SCHEDULE E201 SITE PLAN LIGHTING E301 SITE PLAN SECURITY / SOUND E401 ELECTRICAL AND SYSTEMS SPECIFICATIONS	ARCHITECTURAL DESIGN AND CONSTRUCTION DOCUMENTS FOR THE DEVELOPMENT OF A NEW ALLEY LOCATED IN DOWNTOWN FLOWERY BRANCH. THE ALLEY PROJECT WILL CONSIST OF THE MODIFICATION TO THE EXISTING CONCRETE MASONRY UNIT WALL INTO A SERIES OF RECESSED NICHES FOR TABLES AND CHAIRS, A WOOD PERGOLA SYSTEM, A NEW PAVER WALKWAY PATTERNED TO MATCH THE DOWNTOWN MASTER PLAN DESIGN, DECORATIVE STRING LIGHTS, RECESSED LIGHT FIXTURES, WALL SCONCE LIGHT FIXTURES, LANDSCAPE UP-LIGHTING, MUSIC SOURCE WITH SPEAKER SYSTEM, METAL ARCHWAY, HORIZONTAL WOOD SCREEN WALL, ACCENT TREES, AND SITE FURNITURE.	

REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	MSB	KSG
SHEET TITLE		
COVER SHEET		

SHEET NUMBER
CS

GENERAL NOTES

1. GENERAL CONTRACTOR (GC) SHALL SURVEY JOB SITE PRIOR TO COMMENCING WORK AND SHALL VERIFY ALL DIMENSIONS AND NOTE ALL CONDITIONS WHICH WILL AFFECT OR BE AFFECTED BY WORK ON THIS PROJECT AND SUCH CONDITIONS OR DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT. FAILURE TO DO SO WILL NOT JUSTIFY ANY ADDITIONAL CHARGES.

2. DO NOT SCALE DRAWINGS. IF A DIMENSION IS NEEDED, CONTACT THE ARCHITECT.

3. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES WHICH OCCUR WITHIN THE CONTRACT DOCUMENTS PRIOR TO THE ORDERING OF MATERIALS OR EXECUTION OF WORK.

4. CONTRACTOR SHALL WARRANTY ALL WORK FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.

5. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE CODES, LAWS, RULES AND REGULATIONS OF ALL CONSTITUTED PUBLIC AUTHORITIES HAVING JURISDICTION.

6. THESE PLANS HAVE BEEN PREPARED IN CONFORMITY WITH THE GEORGIA ACCESSIBILITY CODE FOR MAKING BUILDINGS AND FACILITIES ACCESSIBLE TO AND USABLE BY PHYSICALLY HANDICAPPED PEOPLE, TO THE BEST OF OUR KNOWLEDGE. INFORMATION AND BELIEF, FOR THE SCOPE OF WORK HEREIN SUBMITTED.

7. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, INSPECTIONS, FEES, ETC.

8. CONTRACTOR SHALL CLEAN ALL SPACES AND SURFACES THOROUGHLY UPON COMPLETION OF THE WORK, INCLUDING REMOVING DUST, DEBRIS, OILS, STAINS, FINGERPRINTS AND LABELS FROM EXPOSED FINISHED SURFACES, INCLUDING GLAZING.

9. PROJECT CLEANUP SHALL INCLUDE A "VACUUM CLEAN" INTERIOR SPACE WITH RESTORATION OF ALL DAMAGED SURFACES AND ITEMS TO "LIKE NEW" CONDITION.

10. THE TERM "PROVIDE" MEANS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

11. THE TERM "FURNISHED" MEANS THAT THE ITEM SHALL BE SUPPLIED BY OTHERS FOR INSTALLATION BY THE CONTRACTOR UNLESS NOTED OTHERWISE.

12. PROVIDE LABOR, MATERIAL, EQUIPMENT AND SERVICES REQUIRED TO EXECUTE AND COMPLETE ALL ITEMS OF WORK AS SHOWN OR INDICATED ON THE DRAWINGS AND AS SPECIFIED, INCLUDING INCIDENTAL ITEMS TO EFFECT A FINISHED AND COMPLETE JOB, EVEN THOUGH SUCH ITEMS ARE NOT SHOWN OR PARTICULARLY MENTIONED.

13. CONTRACTOR SHALL USE CONSTRUCTION METHODS THAT ARE IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

14. STRUCTURAL WORK, INCLUDING MATERIAL STRESSES AND METHODS OF CONSTRUCTION, SHALL BE IN COMPLIANCE WITH THE STANDARD BUILDING CODE, OSHA AND GOVERNING AGENCIES HAVING JURISDICTION. CONTRACTOR TO USE STRUCTURAL DRAWINGS FOR EXACT LOCATION AND SIZE OF STRUCTURAL MEMBERS.

15. AFTER COMPLETION OF WORK ALL ADDITIONAL MATERIALS REMAINING DUE TO CONSTRUCTION SHALL BECOME THE PROPERTY OF THE GENERAL CONTRACTOR AND SHALL BE DISPOSED OF / REMOVED FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS UNLESS NOTIFIED OTHERWISE. CONTRACTOR SHALL ALSO REMOVE ALL WASTE DEBRIS, RUBBISH, TOOLS, EQUIPMENT AND SURPLUS MATERIALS UPON COMPLETION OF WORK. THROUGHOUT CONSTRUCTION, SITE SHALL BE ORGANIZED AND CLEANED BY CONTRACTOR ON A DAILY BASIS.

O.C.G.A. NOTES

1. THE REGISTERED ARCHITECT WHO SEALED THE TECHNICAL SUBMISSIONS HAS NOT BEEN EMPLOYED TO FURNISH CONSTRUCTION ADMINISTRATION SERVICES. (O.C.G.A. TITLE 43 CHAPTER 4 ARTICLE 1 PARAGRAPH 43-4-16(F))

BUILDING NOTES

1. NONE.

LIFE SAFETY NOTES

1. NONE.

ADA NOTES

1. ALL FLOOR SURFACES ALONG ACCESSIBLE ROUTES AND IN ACCESSIBLE ROOMS AND SPACES INCLUDING FLOORS, WALKS, RAMPS, AND STAIRS SHALL BE STABLE, FIRM, AND SLIP-RESISTANT AND COMPLY WITH THE ACCESSIBLE REQUIREMENTS FOR CHANGES IN LEVEL AND CARPET FLOORING. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTIONS 302 AND 303)

2. TURNING SPACE SHALL BE 60 INCHES IN DIAMETER MINIMUM OR 60 INCH SQUARE WITH ARMS AND BASE 36 INCHES WIDE MINIMUM. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 304)

3. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 309.4)

4. HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS ON DOORS AND GATES SHALL COMPLY WITH SECTION 309.4. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FINISHED FLOOR OR GROUND. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 404.2.7)

5. DOOR OPENINGS SHALL PROVIDE A CLEAR WIDTH OF 32 INCHES MINIMUM. CLEAR OPENINGS OF DOORWAYS WITH SWINGING DOORS SHALL BE MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP, WITH THE DOOR OPEN 90 DEGREES. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 404.2.3)

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FARMERS
MARKET ALLEY
PROJECT

FLOWERY BRANCH,
GEORGIA 30542

REVISIONS

NUMBER	DATE

CPL PROJECT NUMBER
15429.00

DATE	DRAWN	CHECKED
02/22/2022	MSB	KSG

SHEET TITLE

NOTES

SHEET NUMBER

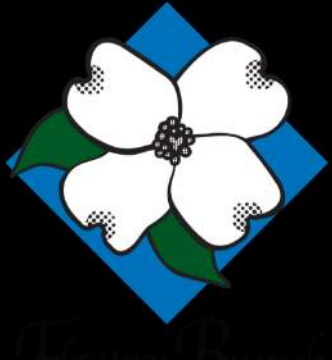
N-1

204



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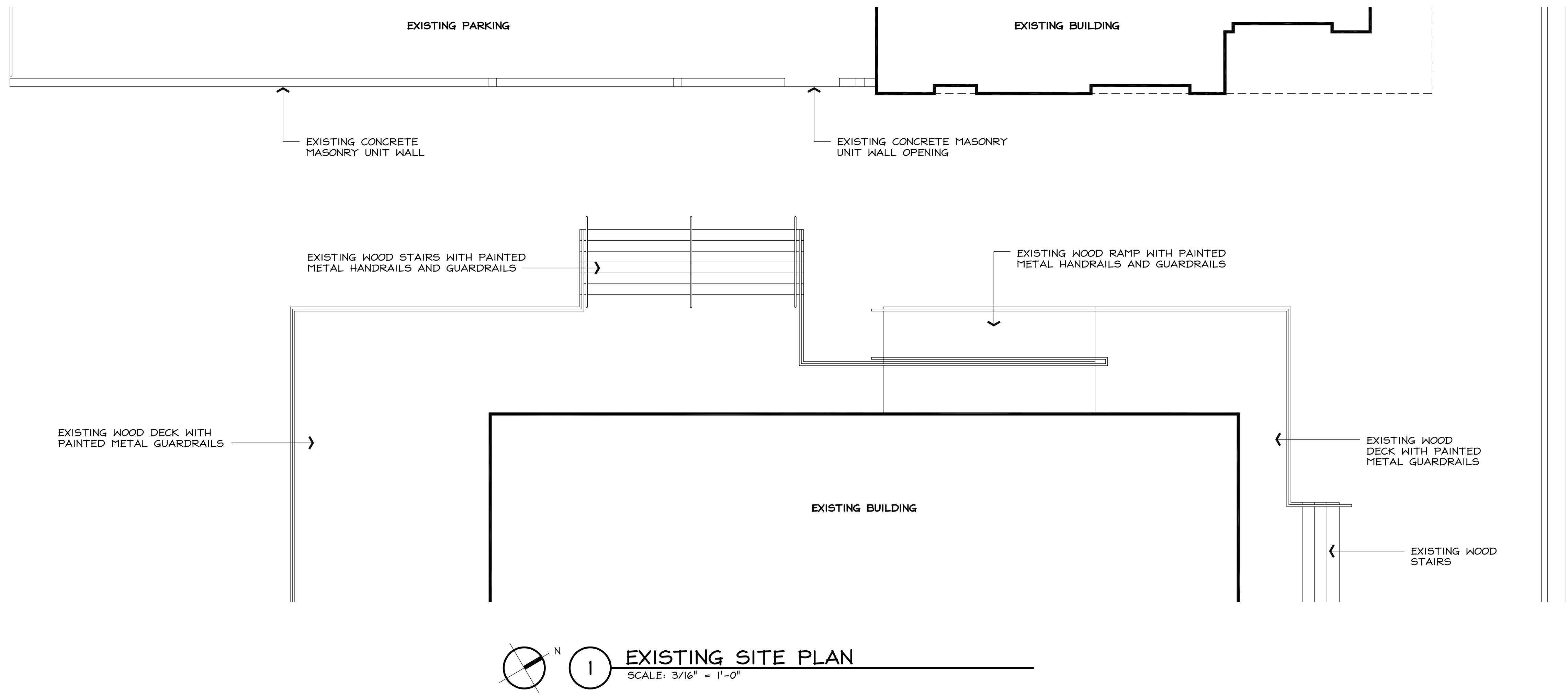
FARMERS
MARKET ALLEY
PROJECT

FLOWERY BRANCH,
GEORGIA 30542

REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
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SHEET TITLE		
EXISTING SITE PLAN		

SHEET NUMBER
EX-1





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FARMERS
MARKET ALLEY
PROJECT

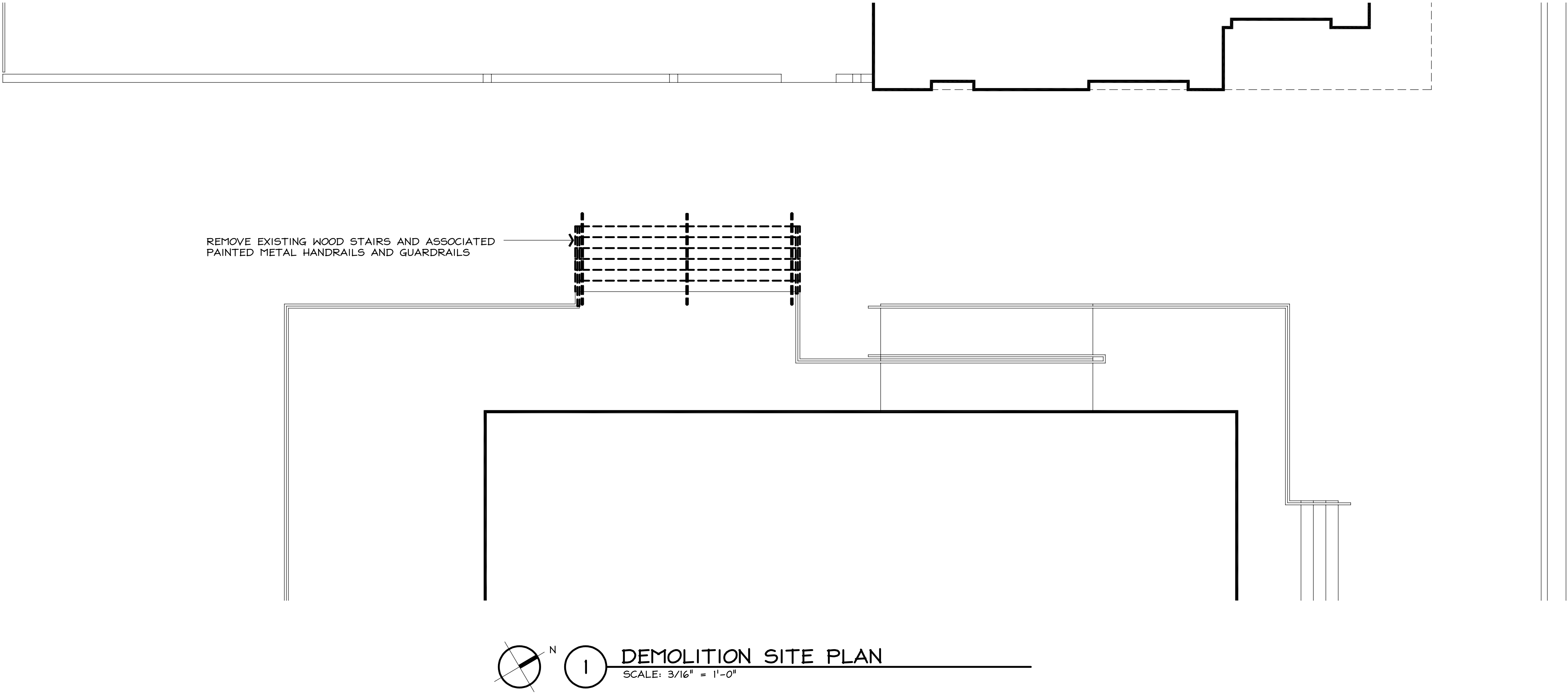
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REVISIONS	
NUMBER	DATE

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DATE	DRAWN	CHECKED
02/22/2022	MSB	KSG
SHEET TITLE		
DEMOLITION SITE PLAN		

SHEET NUMBER

D-1





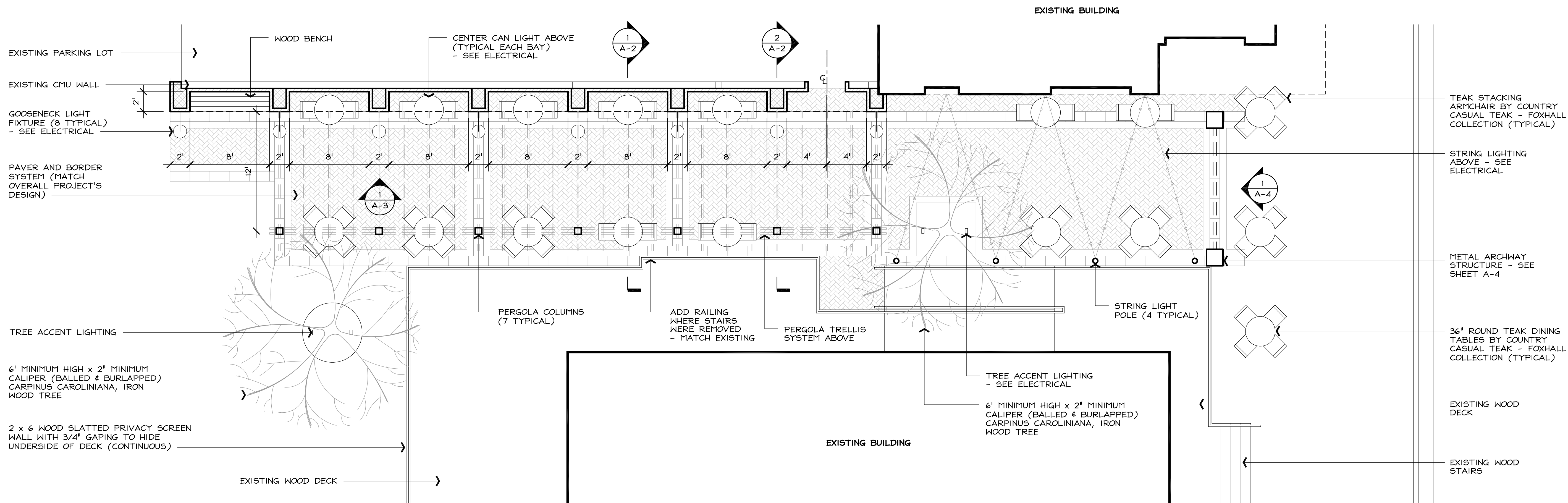
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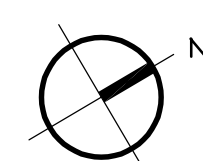
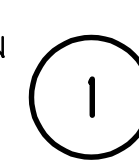


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FARMERS MARKET ALLEY PROJECT

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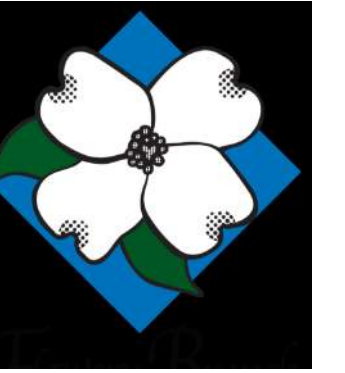
  **ARCHITECTURAL SITE PLAN**
SCALE: 3/16" = 1'-0"

REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
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SHEET TITLE
ARCHITECTURAL SITE PLAN

SHEET NUMBER
A-1



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FARMERS
MARKET ALLEY
PROJECT

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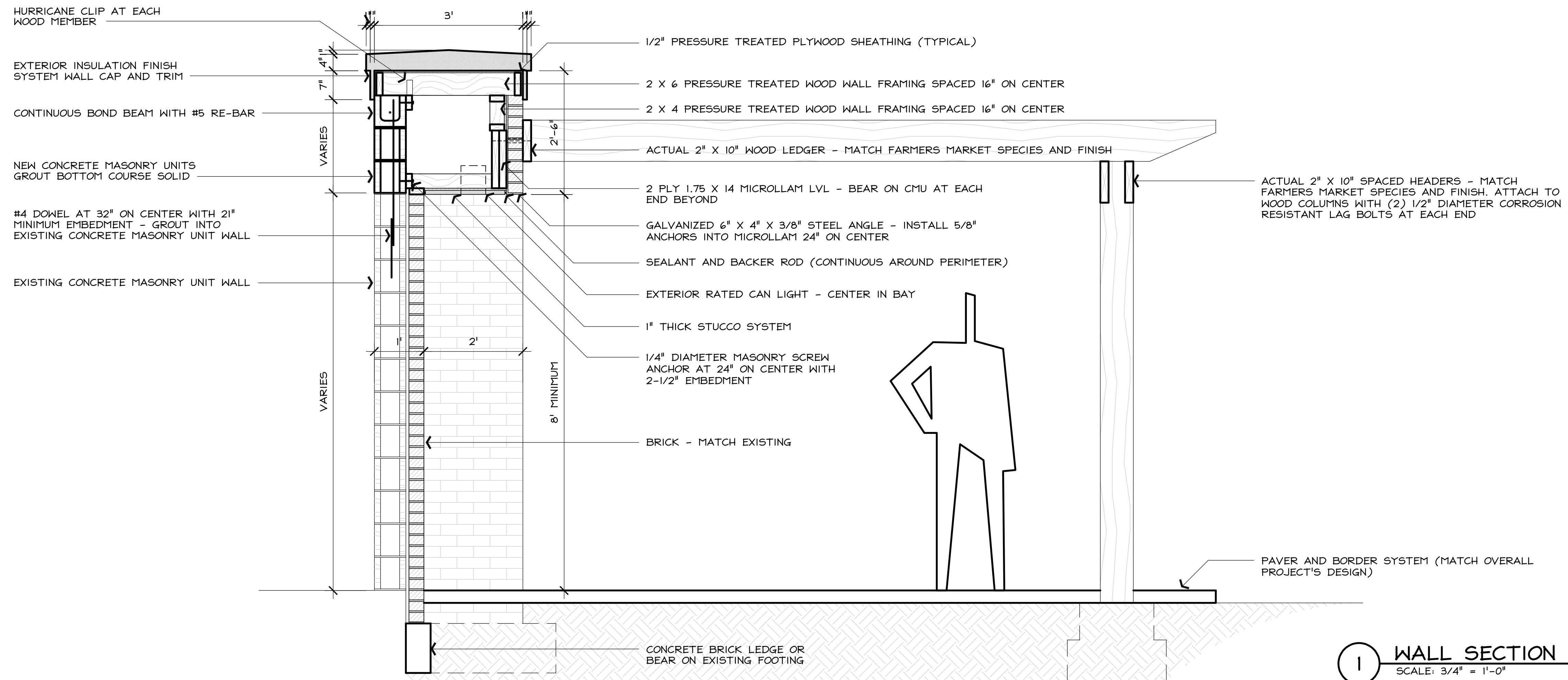
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NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
7/22/2022	MSB	KSG
SHEET TITLE		

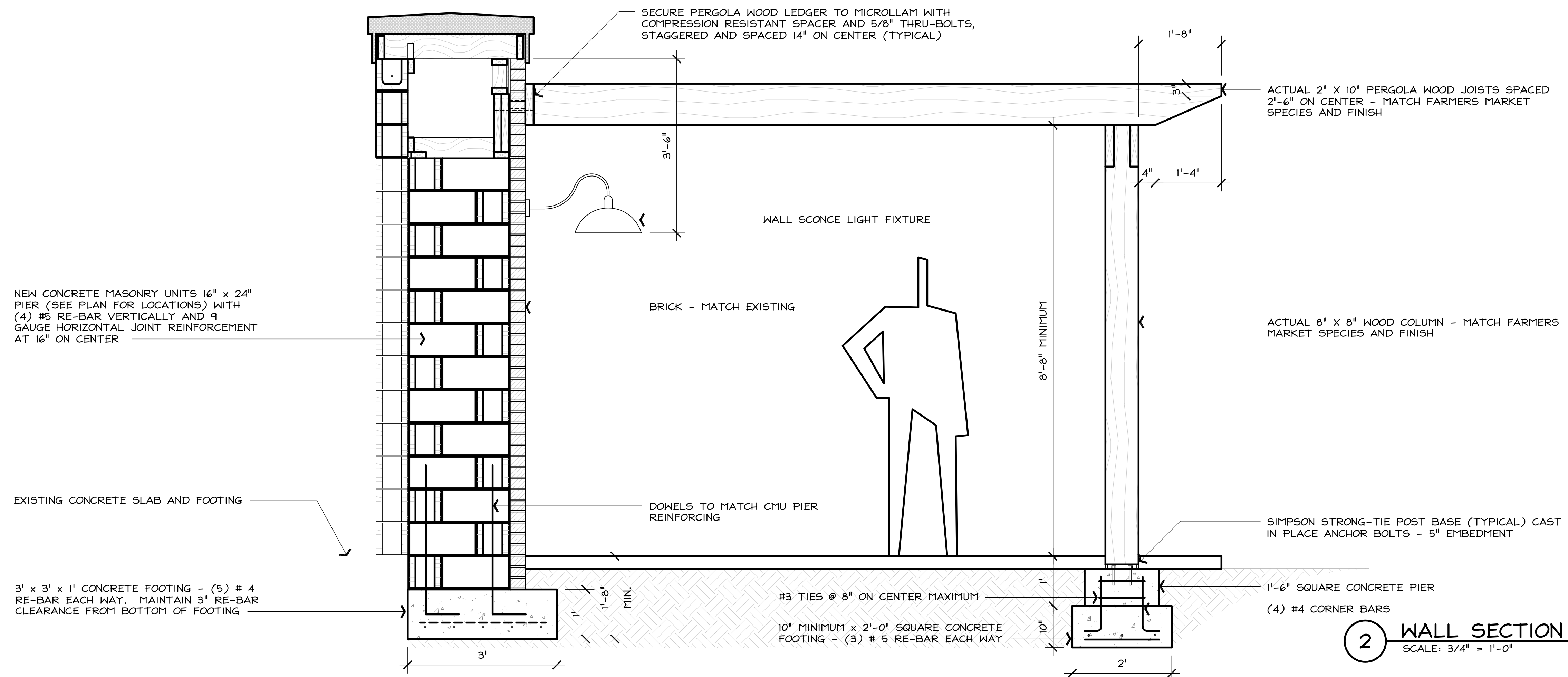
ALL SECTIONS

SHEET NUMBER

A-2



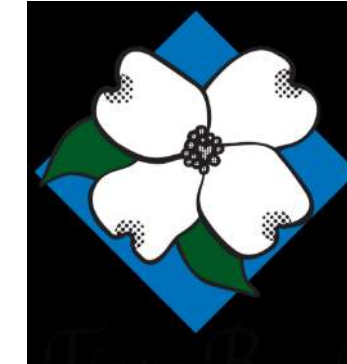
1 WALL SECTION
SCALE: 3/4" = 1'-0"



2 WALL SECTION
SCALE: 3/4" = 1'-0"



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CPL PROJECT NUMBER
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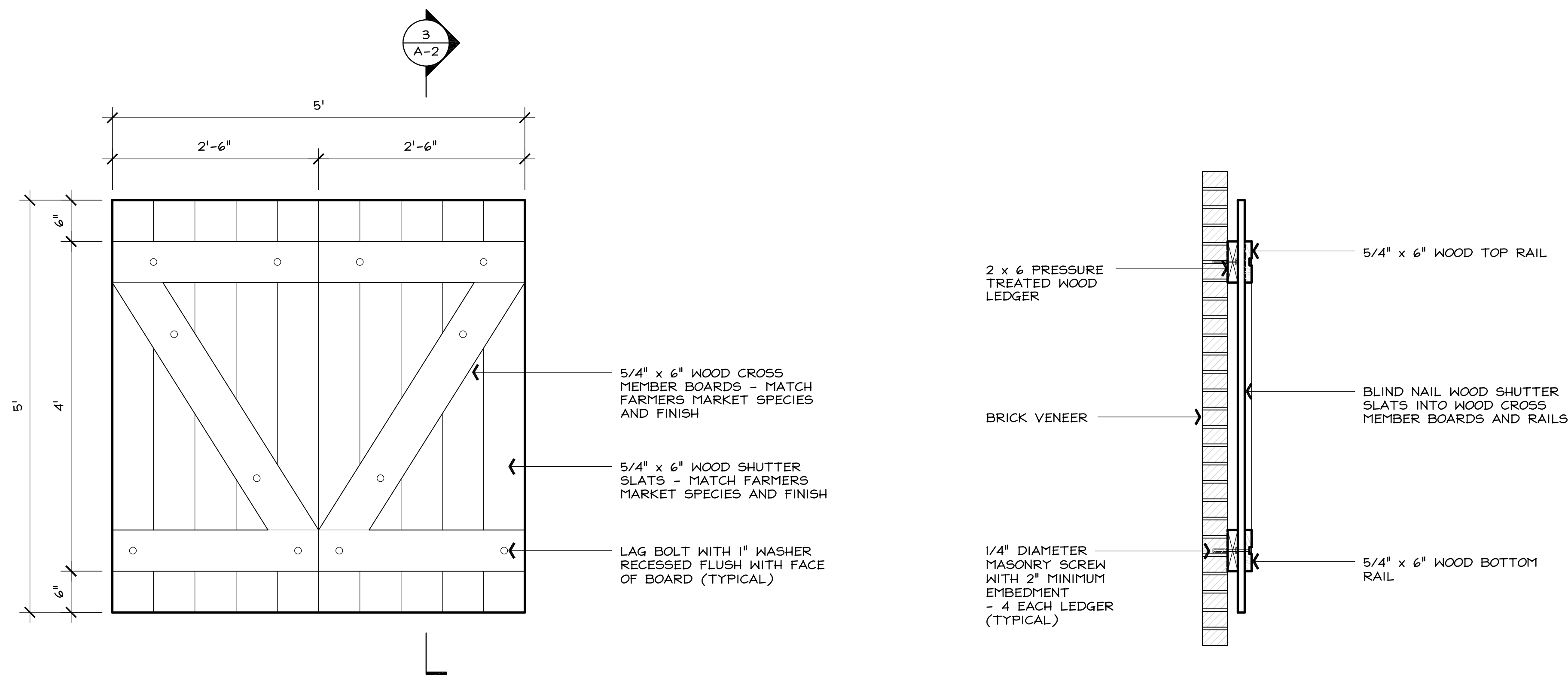
DATE	DRAWN	CHECKED
02/22/2022	MSB	KSG

SHEET TITLE

WALL ELEVATION
AND DETAILS

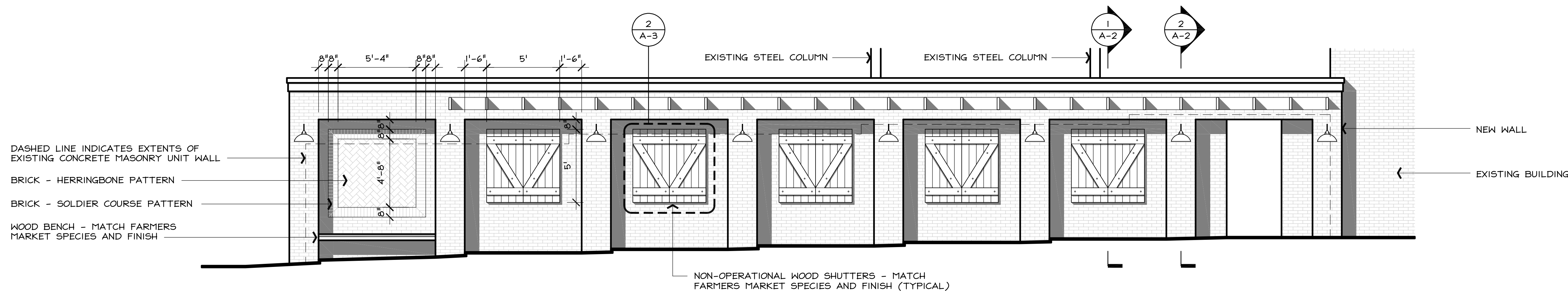
SHEET NUMBER

A-3



2 DETAIL
SCALE: 1" = 1'-0"

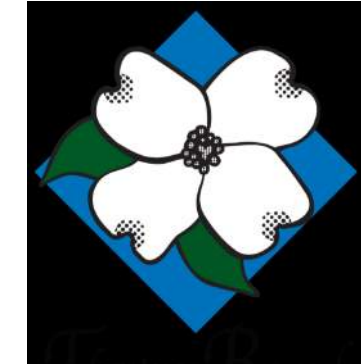
3 DETAIL SECTION
SCALE: 1" = 1'-0"



1 ELEVATION
SCALE: 1/4" = 1'-0"



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SHEET TITLE

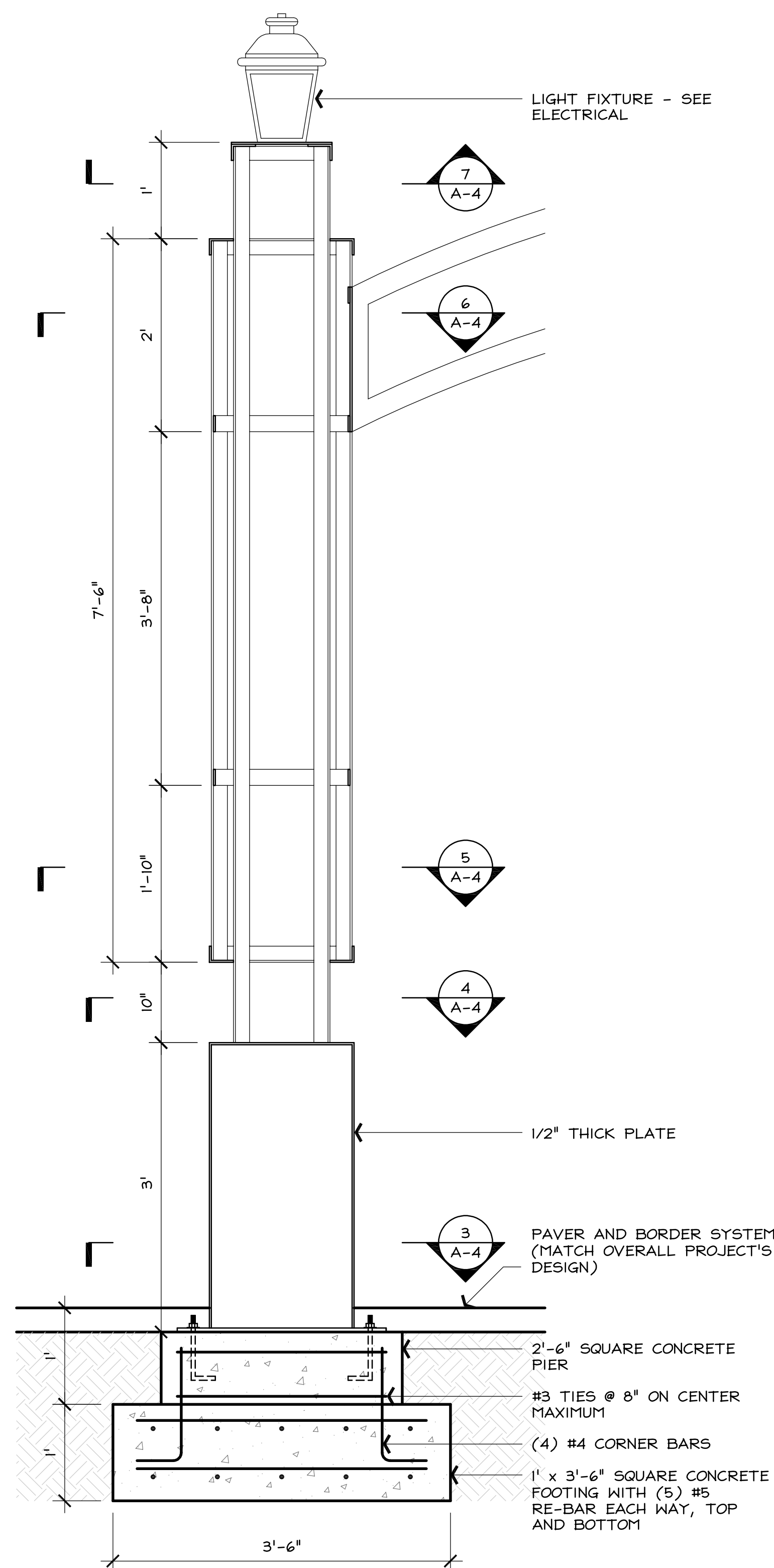
ARCHWAY
DETAILS

SHEET NUMBER

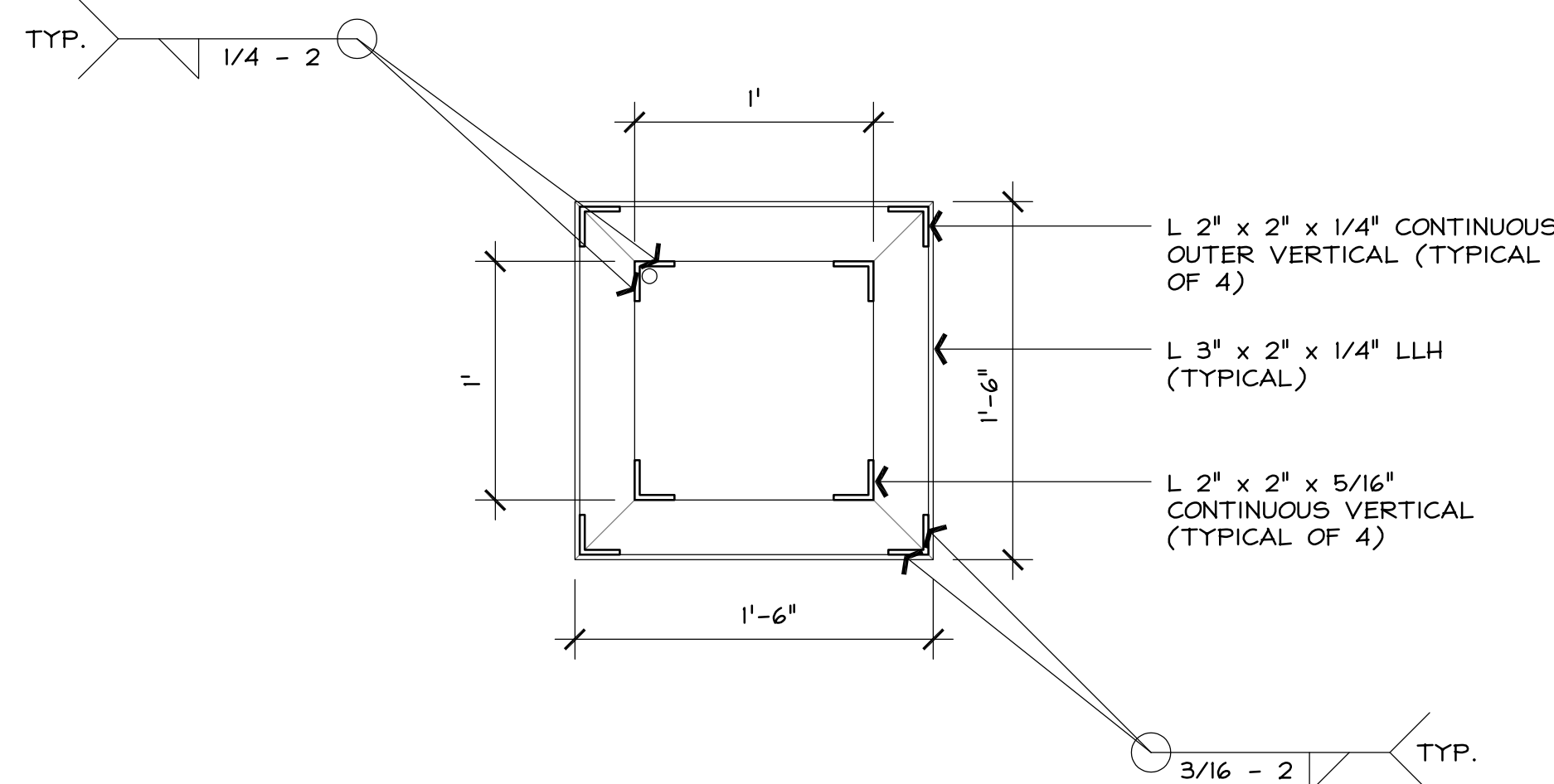
A-4

GENERAL NOTES

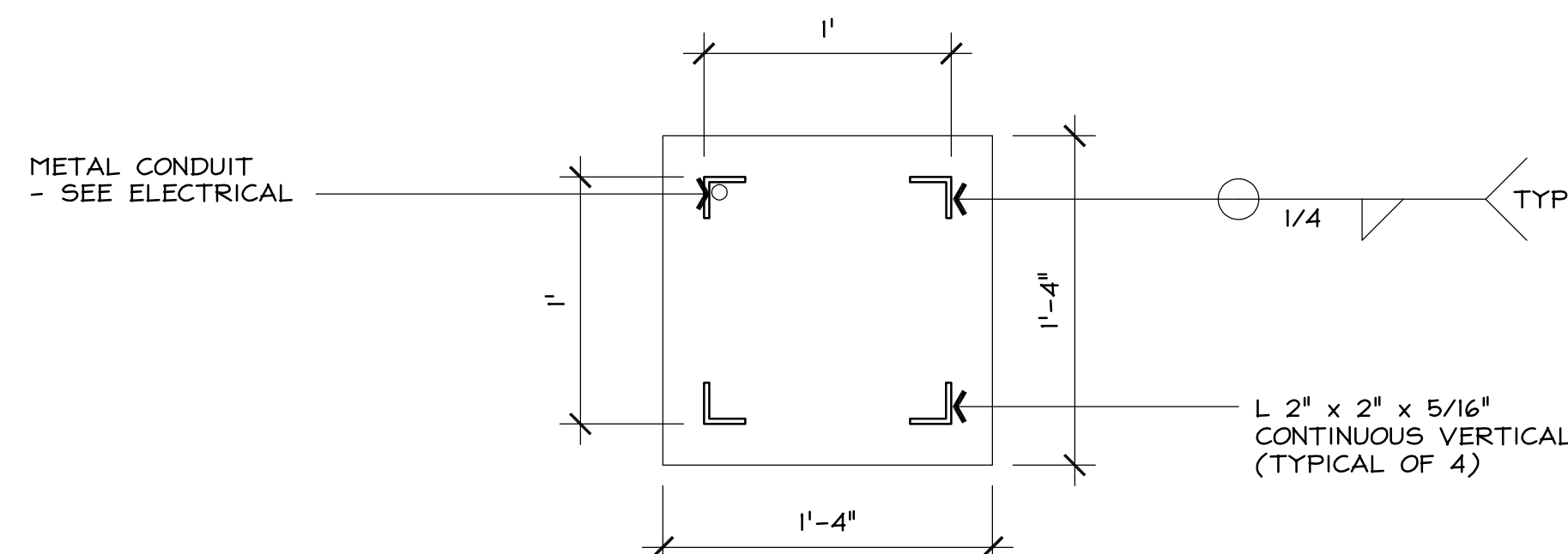
- ARCHWAY STEEL FRAME AND SYSTEM SHALL MEET THE REQUIREMENTS OF ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) CATEGORY 4 REQUIREMENTS.
- ALL EXPOSED STEEL SHALL BE PROTECTED. COORDINATE WITH ARCHITECTURAL REQUIREMENTS FOR PAINTING, COATING, OR GALVANIZING REQUIREMENTS.



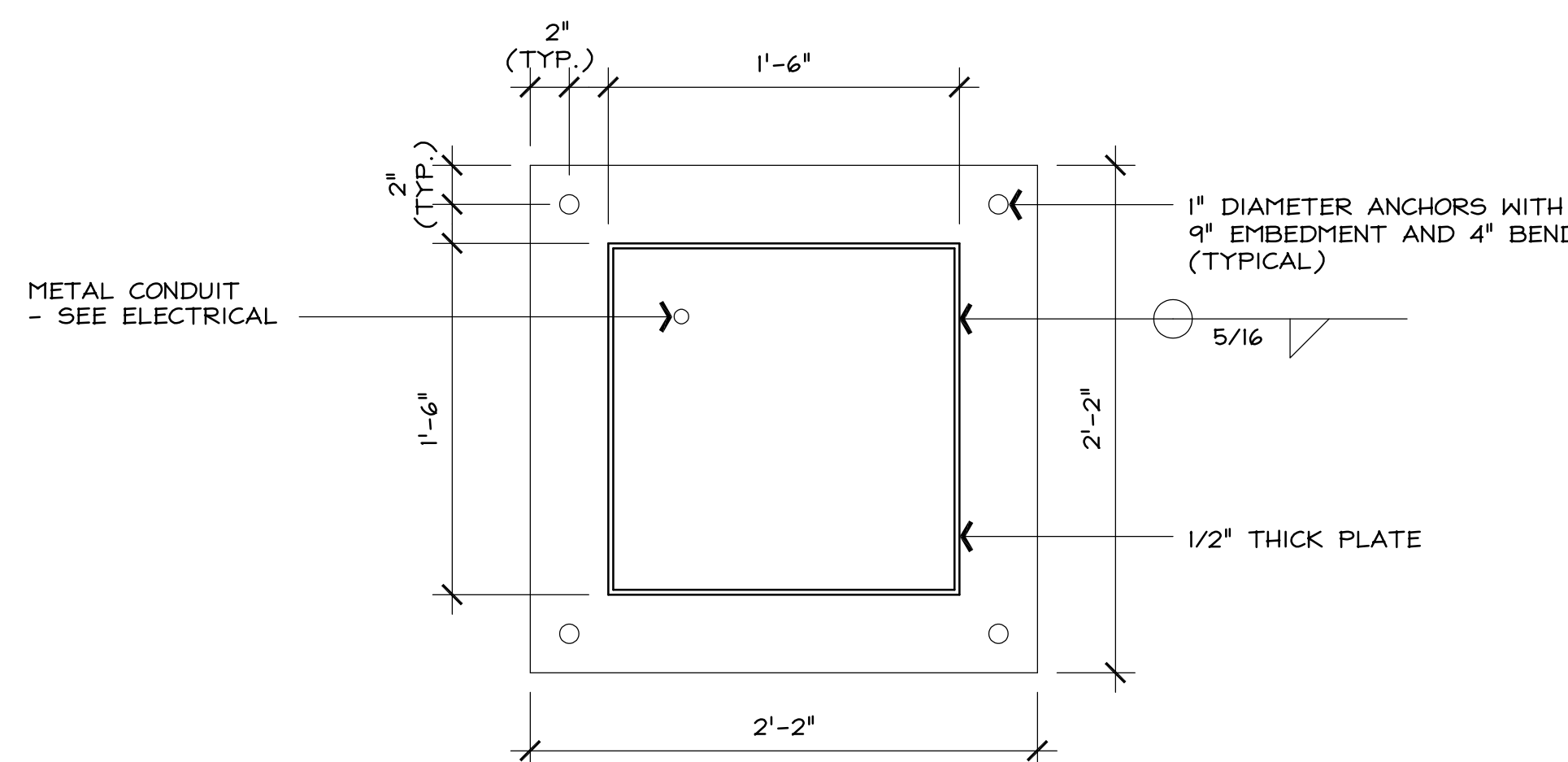
2 SECTION
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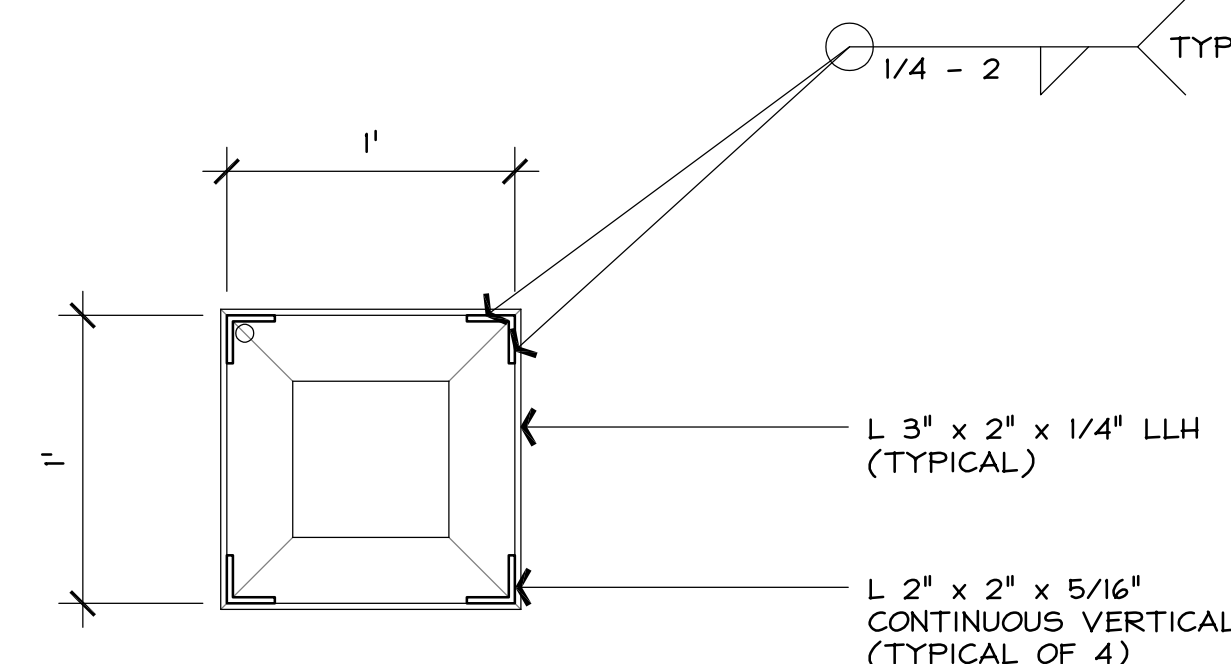
5 SECTION
SCALE: 1-1/2" = 1'-0"



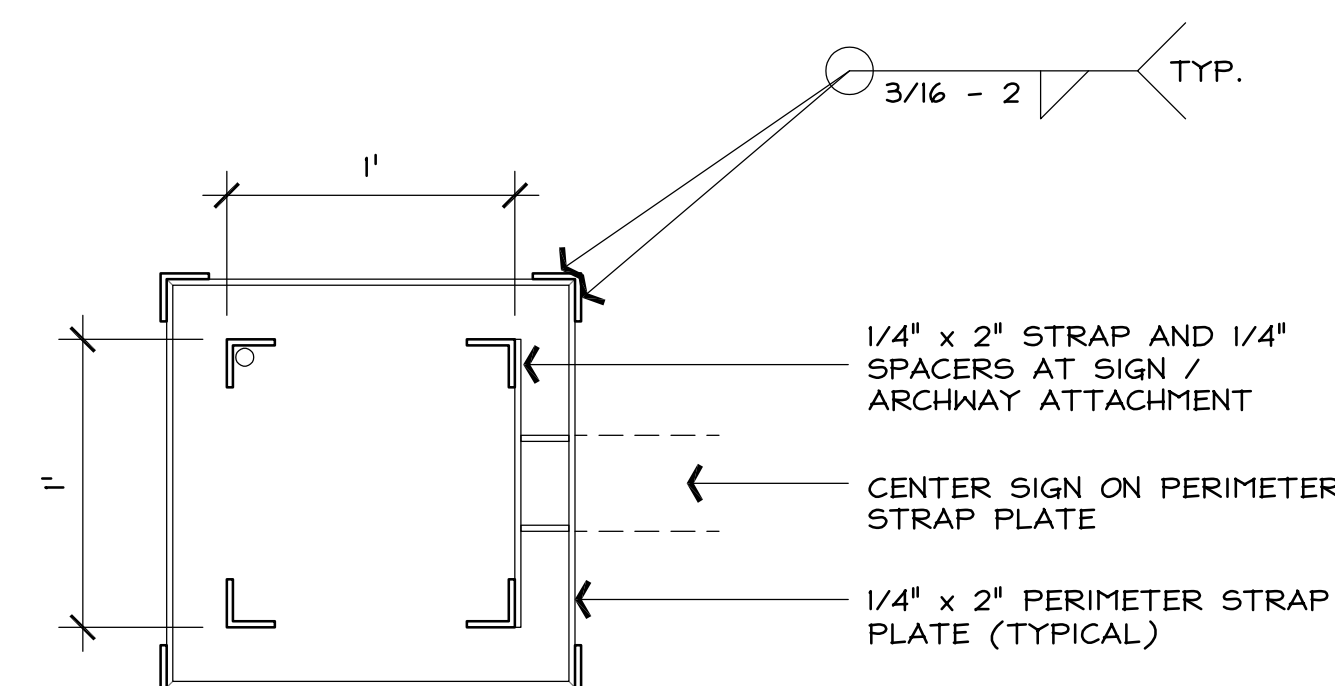
4 SECTION
SCALE: 1-1/2" = 1'-0"



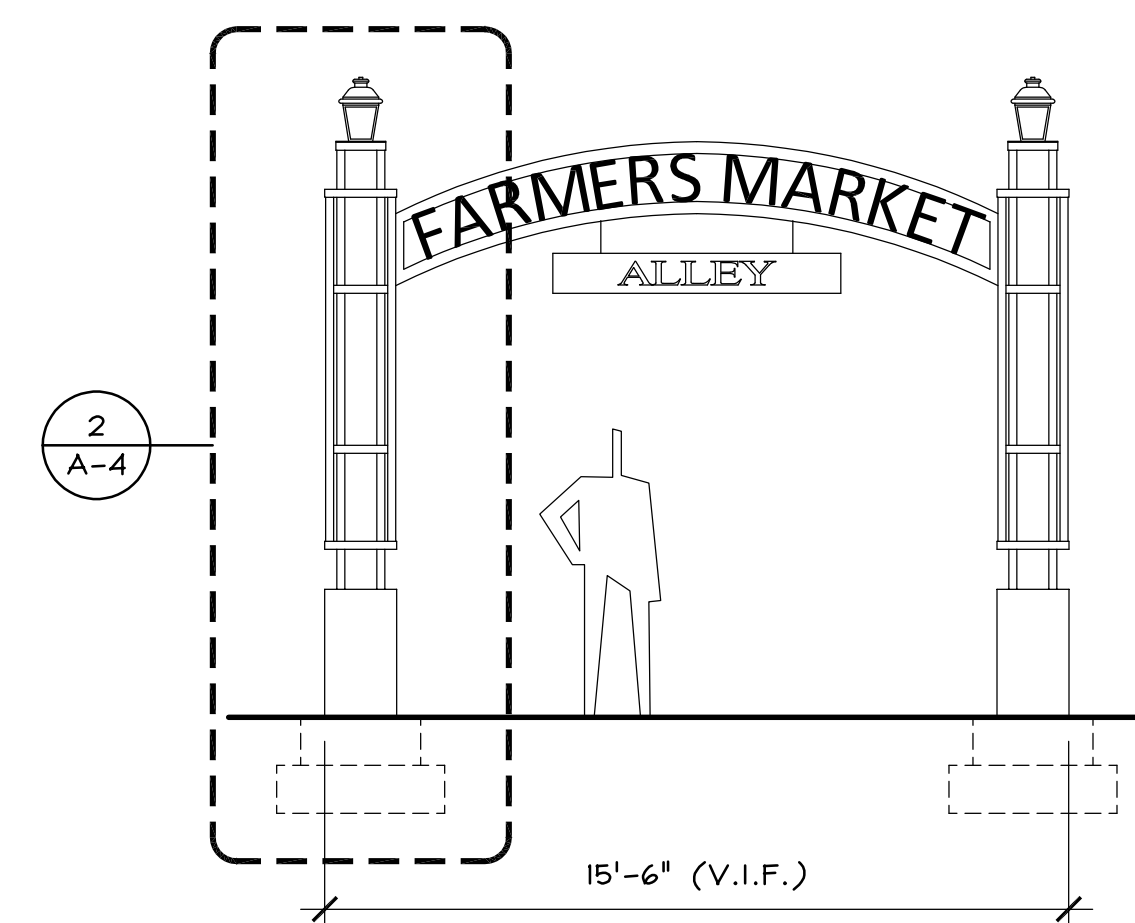
3 SECTION
SCALE: 1-1/2" = 1'-0"



7 SECTION
SCALE: 1-1/2" = 1'-0"



6 SECTION
SCALE: 1-1/2" = 1'-0"



1 ELEVATION
SCALE: 1/4" = 1'-0"

SYMBOL LEGEND

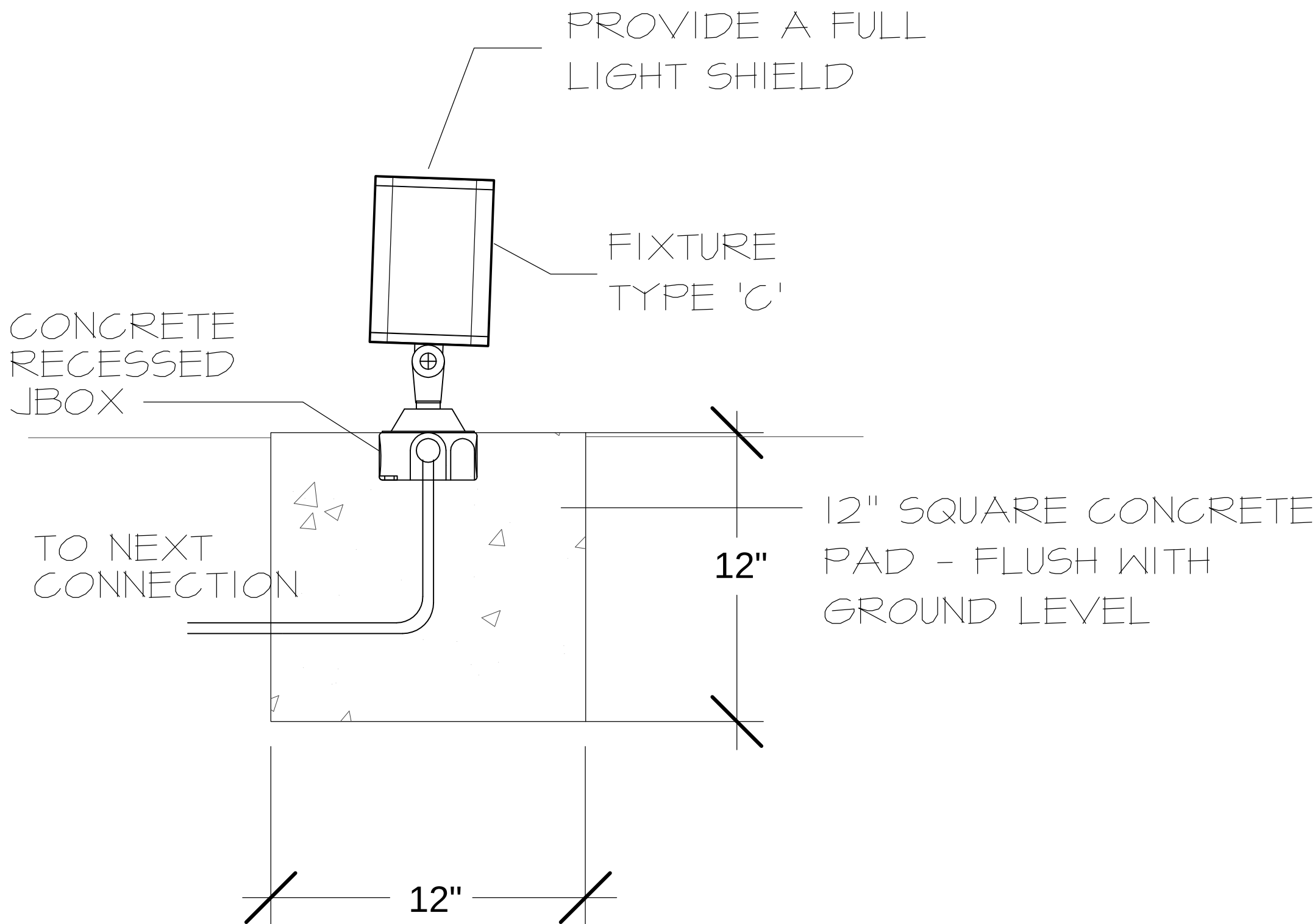
MOUNTING HEIGHT IS FROM FINISHED FLOOR TO CENTERLINE OF DEVICE OR OUTLET. HEIGHT MAY VARY TO COINCIDE WITH BUILDING CONSTRUCTION		
SYMBOL	DESCRIPTION	MOUNTING HEIGHT
AFF	ABOVE FINISHED FLOOR	
WP	WEATHER PROOF	
	CROSS HATCHING REPRESENTS GROUND, NEUTRAL AND HOT RESPECTIVELY, ARROW REPRESENTS HOME RUN	
	CONDUIT CONCEALED IN WALL OR ABOVE CEILING	
	SPEAKER CABLE - COLOR TO BEST MATCH SURROUNDING SURFACE CONCEAL AS MUCH AS POSSIBLE.	
	RECESSED LED LIGHTING FIXTURE - SEE SCHEDULE	
	EXTERIOR PENDANT MOUNTED LANTERN STYLE LIGHTING FIXTURE	
	RECESSED LED LIGHTING FIXTURE - SEE SCHEDULE	
	LED STRING LIGHTING FIXTURE - SEE SCHEDULE	
	EXTERIOR TREE UPLIGHT FIXTURE	
	EXTERIOR LED POST TOP LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE.	
	BOSE 251 WEATHERPROOF SPEAKERS, MT AS DIRECTED BY ARCHITECT. COLOR TO BEST MATCH SURROUNDING SURFACE. R or L NEXT TO SPEAKER INDICATES LEFT OR RIGHT CHANNEL CONNECTION.	
	BOSE SOUND TOUCH SA-5 AMPLIFIER, MT AS DIRECTED BY ARCHITECT. SHELF OR WALL MOUNTING ARE OPTIONS. CONNECT SPEAKERS AS INDICATED TO LEFT OR RIGHT CHANNELS.	
	SECURITY SYSTEM CAMERA - MOUNT AS DIRECTED BY ARCHITECT. MAKE A BLUE TOOTH CONNECTION TO BASE STATION.	
	SECURITY SYSTEM BASE STATION - MOUNT AS DIRECTED BY ARCHITECT. SEE NOTES FOR ADDITIONAL REQUIREMENTS.	
	GROUND FAULT CURRENT INTERRUPTER TYPE DUPLEX RECEPTACLE	48" AFF.
	JUNCTION BOX WITH COVERPLATE - CEILING MOUNTED AND WALL MOUNTED	
	PANELBOARD 208Y/120 VOLTS	

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MOUNTING	VOLT	LAMPS		BALLAST		WATTS	MANUFACTURER
				TYPE	NO.	TYPE	NO.		
A	FOUR INCH LED DOWNLIGHT WITH CLEAR ALZAK REFLECTOR, REFLECTOR TRIM EDGE, DIMMABLE LED LAMPS. MEDIUM DISTRIBUTION REFLECTOR.	RECESSED	120	LED - 3500K	-	ELECTRONIC	-	32	PORTFOLIO LD4B 15 D010TR/ EU4B 1020 90 35/4LBM 2 H
B	LED WALL SCNCE WITH GOOSE NECK MOUNTING ARM, FINISH AS DIRECTED BY THE ARCHITECT, AND HEIGHT AS SHOWN IN WALL SECTION 2/A-2.	WALL - SEE WALL SECTION 2/A-2	120	1000 LUMENS LED - 3500K	-	ELECTRONIC	-	13	ANP LIGHTING BEL14-M010LDD-N-35K-SRTCW-E36-41-UNV
C	EXTERIOR LED ACCENT LIGHT FOR FLAG POLE AND TREE UPLIGHTS. FINAL ADJUSTMENT SHALL BE AT NIGHT WITH THE ARCHITECT/ENGINEER.	GROUND MOUNTED SEE DETAIL 2/E1.01	120	LED - 3500K	-	ELECTRONIC	-	10	ECOSENSE F080 1S HO 35 9 E3 K F A
D	NOT USED AS A LIGHTING FIXTURE DESIGNATION.								
E	TWIN HEAD EMERGENCY BATTERY FIXTURE WITH HOUSING COLOR DIRECTED BY THE ARCHITECT. 6 VOLT NI-CAD BATTERY, AND LED LAMPS.	WALL AT 8'-6" AFF OR AS NOTED	120	FURNISHED	2	N/A	-	11	SURELITE SELD W _ A 50 * SD
F	DECORATIVE SUSPENDED LED STRING LIGHT SYSTEM WITH WATERPROOF SOCKETS, STAINLESS STEEL AIRCRAFT SUPPORT CABLE, WITH TURNBUCKLE SUPPORT CONNECTIONS, AND VINTAGE LAMPS ON 24" CENTERS.	SUSPEND AT SUPPORT POINTS AT 8'-6" AFF WITH 1/2" EYEBOLT.	120	FILAMENT LED	24" OC	N/A	-	--	PRIMUS DSW 24 120 PLED ST19F 2W 22K TBK 18'-0"ea run
G	DECORATIVE COLUMN MOUNTED LED TRADITIONAL LIGHT SYSTEM WITH WATERPROOF RATING, COLUMN MOUNT BASE, 365 CAST BODY WITH BLACK POWDER COAT PAINT. FROSTED ACRYLIC GLASS.	MOUNT ON TOP OF ENTRY COLUMN ON A COLUMN MOUNT BASE	120	LED - 3500K	-	ELECTRONIC	-	10	ANP LIGHTING LA111-1-FR-P029LD4D-T5-35K-CM-41
POLE	10' ROUND STEEL POLE WITH POWDER COAT BLACK FINISH, 3" DIAMETER, 11 GAUGE STEEL, AND CLOSED TOP. PROVIDE A MOUNTING HOLE FOR A 1/2" EYEBOLT WITH DOUBLE LOCKING NUT AT 8'-6" AFF. PAINT TO MATCH THE POLE.	MOUNT ON CONCRETE BASE AS SHOWN IN DETAIL 2/E102	-	-	-	-	-	--	LYTE POLES 101-30-11-10-AB-**BK

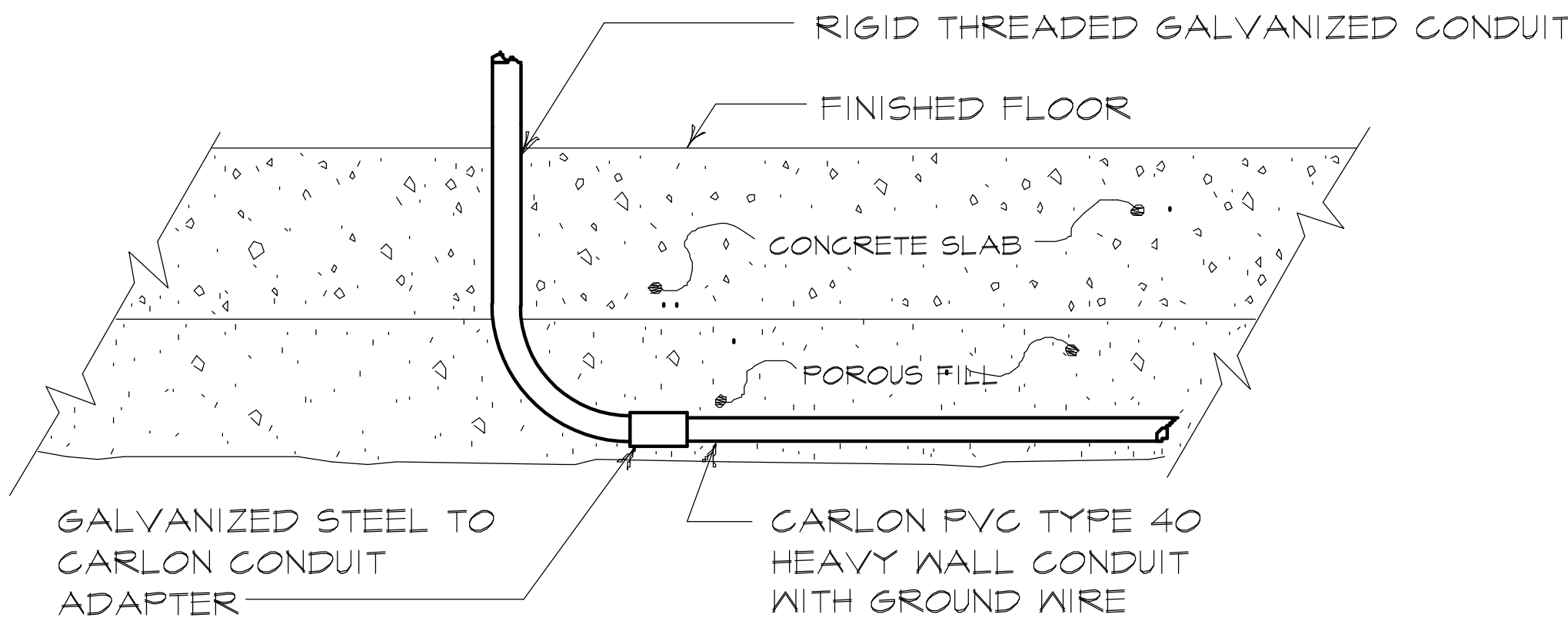
LIGHTING FIXTURE SCHEDULE NOTES:

1. ALTERNATE SUPPLIERS OF SPECIFIED EQUIPMENT WILL BE ACCEPTABLE ONLY BY FORMAL SUBMITTAL 10 DAYS PRIOR TO BID.



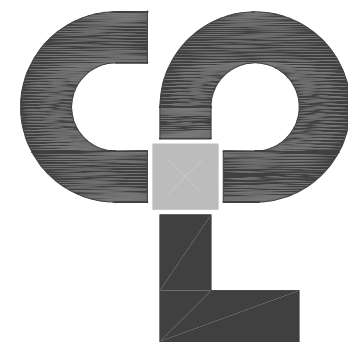
PART PLAN - TREE UP LIGHTING FIXTURE MOUNTING

NOT TO SCALE

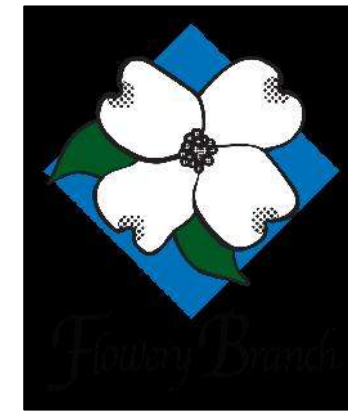


DETAIL - CONDUIT FROM BELOW SLAB

NOT TO SCALE



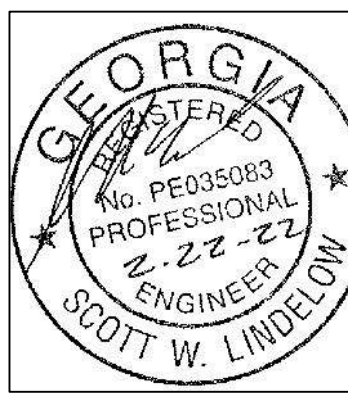
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FLOWERY BRANCH, GA 30542
(770) 967-6371

FARMERS
MARKET ALLEY
PROJECT

FLOWERY BRANCH,
GEORGIA 30542



REVISIONS	
NUMBER	DATE

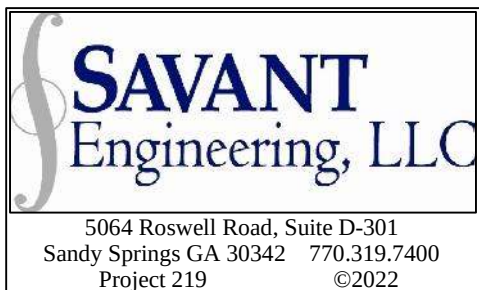
CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	JBK	SWL

SHEET TITLE

ELECTRICAL
INSTALLATION DETAILS,
SYMBOL LIST,
and LIGHTING FIXTURE
SCHEDULE

SHEET NUMBER

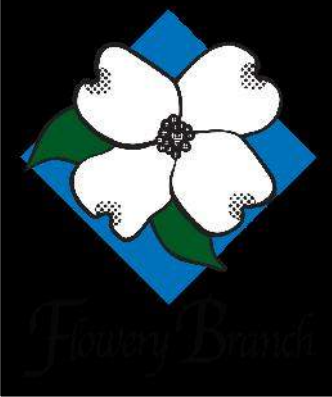
E101





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REVISIONS	
NUMBER	DATE

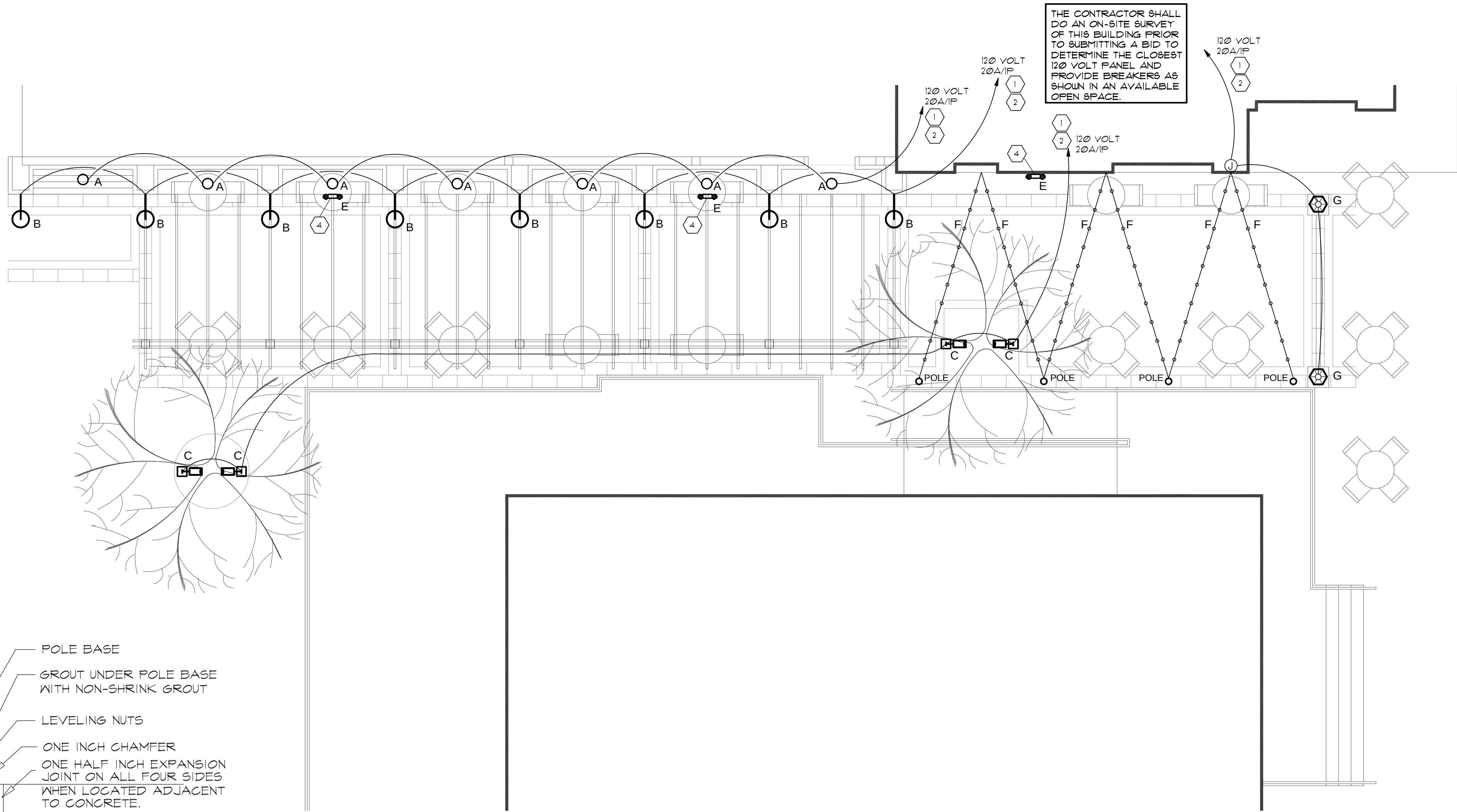
CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	JBL	SWL
SHEET TITLE		
SITE PLAN LIGHTING		

SHEET NUMBER

E201

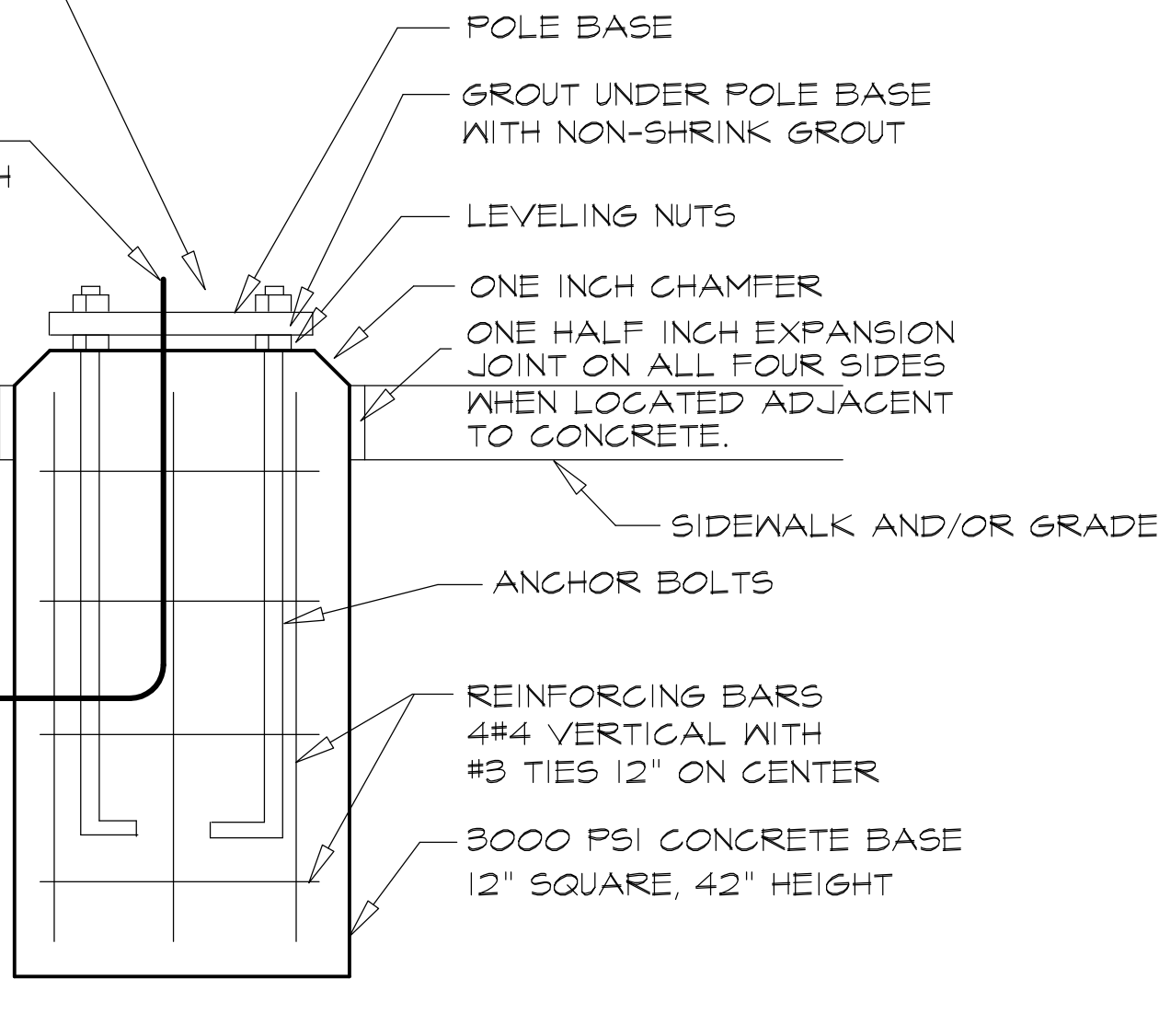


5064 Roswell Road, Suite D-301
Sandy Springs GA 30342 770.319.7400
Project 219 ©2022



FURNISH AND INSTALL EACH POLE WITH POLE BASE PEDESTAL COVER (NOT SHOWN). PEDESTAL COVER SHALL CONCEAL ALL ANCHOR BOLTS.

PROVIDE AND INSTALL (1) 5/8"x5' COPPERCLAD GROUND ROD AT EACH POLE BASE. RUN #10 GND FROM ROD AND CONNECT TO POLE ASSEMBLY.



2

POLE BASE DETAIL

NOT TO SCALE

LEGEND NOTES:

- 1
- EXTEND AND CONNECT TO THE NEAREST 120 VOLT PANELBOARD.
- 2
- EXTEND THROUGH EXTERIOR LIGHTING TIME SWITCH.
- 3
- EXTERIOR LIGHTING CONTROL PANEL - GREENGATE LK8 - LITEKEEPER 8. PROGRAM AS DIRECTED BY THE OWNER FOR ON/OFF TIMES FOR EACH CONTACTOR.
- 4
- EXTEND 2#12 & 1#12G TO THE NEAREST 120 VOLT CONTINUOUS CIRCUIT AND CONNECT.

1

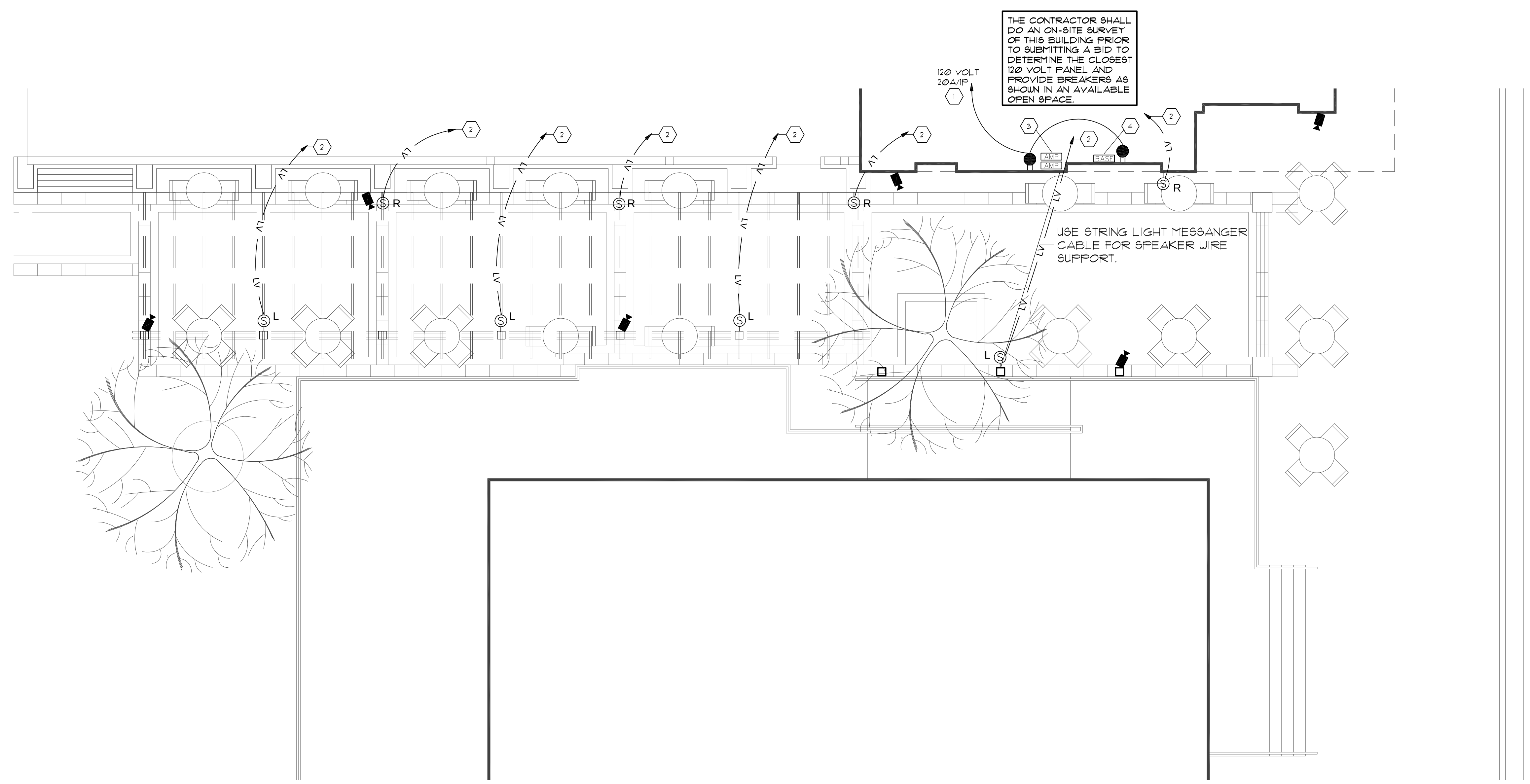
SITE PLAN - LIGHTING

SCALE: 3/16" = 1'-0"

NOTE:
DRAWING SCALE FOR THIS SHEET IS 3/16" = 1'-0"

GENERAL NOTES:

1.
- PROVIDE IN EACH CONDUIT, NOT OTHERWISE NOTED, TWO #12 AND ONE #12 GROUND. THIS INCLUDES ALL SWITCH LEGS, LIGHTING AND RECEPTACLE CONDUITS.
2.
- A DEDICATED NEUTRAL SHALL BE RUN WITH EACH CIRCUIT WITH A COLOR STRIPE MATCHING THE RESPECTIVE UNGROUNDED CONDUCTOR COLOR. DO NOT COMBINE HOMERUNS. DO NOT USE A WIRE TROUGH ABOVE OR BELOW ANY PANELBOARDS FOR GATHERING AND INSTALLING HOMERUNS.
3.
- "MATERIALS EXPOSED WITHIN PLENUMS ARE REQUIRED TO BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 AS DETERMINED IN ACCORDANCE WITH ASTM E 84 EXCEPT FOR TESTED AND LABELED WIRING, FIRE SPRINKLER PIPING, PNEUMATIC TUBING, AND ELECTRICAL EQUIPMENT." CODE REFERENCE - 2012 IMC SECTION 602.2.1
4.
- AS REQUIRED BY CURRENT NATIONAL ELECTRICAL CODE, PROVIDE IN EACH CONDUIT RUN TO A LIGHT SWITCH A NEUTRAL CONDUCTOR ALONG WITH THE PHASE CONDUCTORS, ALL SWITCH LEGS, AND GROUNDING CONDUCTOR.



1 SITE PLAN - SECURITY/SOUND
SCALE: 3/16" = 1'-0"

NOTE:
DRAWING SCALE FOR THIS SHEET IS 3/16" = 1'-0"

LEGEND NOTES:

- 1. EXTEND AND CONNECT TO THE NEAREST 120 VOLT PANELBOARD.
- 2. EXTEND TO SPEAKER SYSTEM AMPLIFIER AND CONNECT TO THE CHANNEL INDICATED.
- 3. SPEAKER SYSTEM AMPLIFIERS, MOUNT AS DIRECTED BY THE ARCHITECT AND CONNECT SPEAKERS AS INDICATED.
- 4. SECURITY SYSTEM BASE STATION, MOUNT AS DIRECTED BY THE ARCHITECT AND CONNECT CAMERAS AS REQUIRED.

GENERAL NOTES:

- 1. PROVIDE IN EACH CONDUIT, NOT OTHERWISE NOTED, TWO #12 AND ONE #12 GROUND., THIS INCLUDES ALL SWITCH LEGS, LIGHTING AND RECEPTACLE CONDUITS.
- 2. A DEDICATED NEUTRAL SHALL BE RUN WITH EACH CIRCUIT WITH A COLOR STRIPE MATCHING THE RESPECTIVE UNGROUNDED CONDUCTOR COLOR.
- 3. "MATERIALS EXPOSED WITHIN PLENUMS ARE REQUIRED TO BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 AS DETERMINED IN ACCORDANCE WITH ASTM E 84 EXCEPT FOR TESTED AND LABELED WIRING, FIRE SPRINKLER PIPING, PNEUMATIC TUBING, AND ELECTRICAL EQUIPMENT." CODE REFERENCE - 2012 IMC SECTION 602.2.1
- 4. COORDINATE THE EXACT LOCATION OF THE SYSTEMS MATERIAL AND DEVICES WITH THE ARCHITECT PRIOR TO ROUGH-IN. MAKE ANY CHANGES REQUIRED TO MEET THEIR DIRECTION.

REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	JBL	SWL
SHEET TITLE		
SITE PLAN SECURITY/SOUND		

SHEET NUMBER
E301

DIVISION 16000: ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

- 1.01 SCOPE:
- A. Furnish and install a completely wired and operational electrical system as shown on the drawings and specified herein, including but not limited to these major items.

1. Lighting fixtures as indicated and specified on plans.

2. Conduit, wiring, etc., for all outlets and equipment.

3. Cabling and outlets for security and sound.
- 1.02 CODES, REGULATIONS AND STANDARDS:
- A. The installation shall comply with applicable local and state codes and ordinances, including the regulations of the following:

1. Americans with Disabilities Act

2. Current Applicable Building Code

3. National Electric Code

4. Local building codes and ordiances

B. The following industry standards, specifications are also minimum requirements:

1. The National Electrical Manufacturer's Association Standards (NEMA).

2. The Manufacturer's Recommendation.

3. Underwriter Laboratories Incorporated Standards (UL).

4. American National Standards Institute (ANSI).
- 1.03 PERMITS
- A. Obtain and pay for all required permits and inspection fees.
- 1.04 INSPECTION OF SITE:
- A. Prior to submitting a bid, visit the site of the proposed construction to become thoroughly acquainted with existing utilities, working conditions, etc. Allowance will not be made for non-compliance with this condition after bidding.
- 1.05 CLEAN-UP:
- A. Keep the premises free from accumulation of waste material, or rubbish caused by employees or work under this Division of the specification. At the completion of the work, remove all surplus materials, tools, etc., and leave the premises "broom-clean". Remove all temporary wiring upon project completion.
- 1.06 DRAWINGS:
- A. The drawings indicate the general arrangement and locations of the electrical work. Data presented on the these drawings are as accurate as planning can determine, but field verification of all dimensions, locations, levels, etc., to suit field conditions is required. Review all architectural, structural and mechanical drawings and adjust all work to meet the requirements of conditions shown. The architectural drawings shall take precedence over all other drawings. Discrepancies between different plans, or between drawings and specifications, or regulations and codes governing the installation shall be brought to the attention of the Architect in writing before the date of bid opening. If discrepancies are not reported, bid the greater quantity or better quality, and appropriate adjustments will be made after contract award. Field measure and confirm mounting heights and location of electrical equipment with respect to counters, mechanical equipment, etc. Do not scale distances off the electrical drawings; use actual building dimensions.
- 1.07 CUTTING AND FITTING:
- A. Perform coring, cutting, chopping, fitting, repairing and finishing of the work necessary for the installation of the equipment of this Section. However, no cutting of the work of other trades or of anystructural member shall be done without the consent of the Architect and Landlord. Properly fill seal, fireproof and waterproof all openings, sleeves, and holes in slabs. Furnish and install all required sleeves and inserts.
- 1.08 COORDINATION WITH OTHER TRADES:
- A. Cooperate with other trades so that installation of electrical outlets and equipment will be properly coordinated. Check conduit, fixture, and other equipment locations with the other trades to avoid conflict with the piping, ductwork, steel, piping, beams, or other obstructions.

B. Carefully check the locations of the outlet boxes and determine that they have not been disturbed during the installation of material of other trades.

PART 2 - PRODUCTS AND EXECUTION

- 2.01 MATERIALS:
- A. All material shall be new and of quality as specified on the plans or specifications and must carry the Underwriter's Laboratories approval covering the purpose for which they are used, in addition to meeting all requirements of the current applicable codes and regulations. No substitution to materials specified will be allowed.
- 2.02 CONDUIT:
- A. Use Electrical Metallic Tubing (EMT) for equipment branch circuit feeders and in indoor locations for all exposed work above 10'-0" and above lay-in ceilings. MC cable is allowed to be used in walls and above concealed ceilings. IMC shall be used for all exterior work, equipment branch circuit feeders and interior conduit exposed below 10'-0" AFF.

B. Where the conduit enters outlet boxes, fixtures or cabinets, firmly fasten by double locknuts and bushings. Firmly fasten conduit to the building construction. Run exposed conduits parallel to the building lines, supported by appropriate straps. Support conduits on 5 foot intervals and within 3 feet of any box or fitting.

C. Conduit connectors shall be double locknut type, UL listed and labelled, with set-screw or compression fittings.

D. Conduit sizes shall be as required by code and as indicated or specified herein. Minimum conduit size 1/2".

E. All empty conduit systems shall have 200 lb. test pull cord to facilitate installation of future wire.

F. Conceal conduits and outlets within the building structure.
- 2.03 OUTLET, PULL AND JUNCTION BOXES:
- A. Each switch, light, receptacle or other outlets shall be provided with a code gauge, galvanized steel outlet box. All boxes shall be of the one piece, knockout type, shape and size to match the device being served.

B. Boxes installed for the telephone, television and data systems shall be provided with appropriate coverplates.

C. All surface mounted boxes shall be cast type FS with threaded hubs. No exceptions.
- 2.04 WIRING - CABLE & CONDUCTORS:
- A. Unless otherwise specified, all wiring shall be in concealed conduit with copper conductors. The conductors shall be minimum # 12 AWG with an insulated green ground conductor in each run.

B. All wire installed in nonmetallic sheathed cable (NMC) or conduit shall be Type THHN or XHHW copper. The wires shall be color coded. Unless otherwise required by local ordinances, ground wires shall be green, neutral wires shall be white and phase wires shall be black (Phase A), red (Phase B), and blue (Phase C) for 120/208 volt systems. All conductors shall be #12 AWG, unless otherwise indicated.
- 2.05 WIRING DEVICES:
- A. Receptacles shall be specification grade, duplex type, NEMA 5-20R, 20 ampere, 125 volt grounded type. Outlets shall be Hubbell 5362-** with NYLON coverplates.

B. GFI receptacle shall be Hubbell GF5362.

C. Provide type of faceplates to match devices.

D. Device and coverplate color shall be as directed by the architect.
- 2.06 PANELBOARDS:
- A. Branch circuit panelboards refered to on drawings are existing. Provide new circuit breakers as indicated on the drawings.
- 2.07 GROUNDING:
- A. Provide a grounding conductor in all cable and branch circuits.

B. Provide a grounding lug on all devices, and connect to the branch circuit grounding conductor.
- 2.08 GUARANTEE
- A. Guarantee all material furnished and all workmanship performed for a period of one year from the date of final acceptance of the work. Any defects developing within this period, traceable to material furnished as part of this Section or workmanship performed hereunder, shall be corrected at no expense to the Owner.
- 2.09 EXISTING FACILITIES, DEMOLITION AND ALTERATIONS:
- A. Fully investigate the site and ascertain all existing utilities and conditions which may effect the execution of this work.

PART 3 - SECURITY CAMERA SYSTEM

- 3.01 SYSTEM CRITERIA:
- A. Provide 6 wireless cameras for the monitoring of the entry and public areas. Include a base station, cellular connectivity, power to keep each camera active 24/7, premier level plan for camera management, and a data plan for owner directed distribution and monitoring. Cameras shall be located to best monitor the entire space and be mounted to prevent tampering or unauthorized removal. Provide power for the base station as indicated on the drawings.

B. Approved manufactures for this equipment include Arlo and Ring. Other manufacturers may be supplied only after a complete submittal of the proposed equipment to the engineer prior to bid and approval given in writing.

C. Approved supplier and installer of this system is Icotech Inc. Contact Bryan Hodges at 334.386.9996 for pricing and availability. Other installers may be used only after a complete submittal of the proposed company with references and personnel to the engineer prior to bid and approval given in writing.

PART 4 - BACKGROUND MUSIC SYSTEM

- 4.01 SYSTEM CRITERIA:
- A. Provide a general background music system as indicated on the drawings. Provide all required cabling and mounting for a complete system. Music shall be able to be supplied from a connected source, (Iphone, Ipod, or other source) through the base amplifiers and distributed to the space with the speakers indicated. Input source not included. Speakers shall be located to best cover the entire space and be mounted to prevent tampering or unauthorized removal. Provide power for the base amplifiers as indicated on the drawings.

B. The basis of material quality for this equipment is Bose. See the symbol list for specific part numbers and notes for additional information regarding the installation of this system. Other manufacturers may be supplied only after a complete submittal of the proposed equipment to the engineer prior to bid and approval given in writing.

C. Approved supplier and installer of this system is Icotech Inc. Contact Bryan Hodges at 334.386.9996 for pricing and availability. Other installers may be used only after a complete submittal of the proposed company with references and personnel to the engineer prior to bid and approval given in writing.

SAVANT

Engineering, LLC

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Sandy Springs GA 30342 770.319.7400
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CITY OF FLOWERY BRANCH
5410 PINE STREET
FLOWERY BRANCH, GA 30542
(770) 967-6371

FARMERS
MARKET ALLEY
PROJECT

FLOWERY BRANCH,
GEORGIA 30542

REGISTERED
No. PE035083
PROFESSIONAL
2-22-22
ENGINEER
SCOTT W. LINDFELW

REVISIONS		
NUMBER	DATE	

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	IBL	SWL
SHEET TITLE		
ELECTRICAL and SYSTEMS SPECIFICATIONS		

SHEET NUMBER
E401

214



Company Address 1595 Peachtree Parkway
Suite 204-396
Cumming, GA 30041
United States

Created Date 5/25/2022
Prepared By Jonathan Zambrano
Email jonathan@triscapes.com
Phone 770-560-9335

Reference CO_#06_ Antebellum restaurant

Contact Name Rich Edinger
Phone 678.318.1062 (direct)
Email redinger@cplteam.com

Product	Line Item Description	Quantity	UOM	Unit Price	TSI Total Price
Demolition	DEDUCT: Remove existing asphalt to subgrade	-2,605.00	SF	\$2.25	-\$5,861.25
Retaining Wall	DEDUCT: Antebellum Wall #1	-193.00	LF	\$300.00	-\$57,900.00
Site Furnishings	DEDUCT: Tree Grate (1/SD12)	-5.00	EA	\$3,562.50	-\$17,812.50
Striping	DEDUCT: 2 Coats of 4" Wide White Paint. All Traffic Striping per GDOT Specs.	-239.00	LF	\$4.80	-\$1,147.20
Concrete	DEDUCT: 4" Thick, 3,500 psi. Broom Finished Concrete Sidewalk (3/SD11)	-650.00	SF	\$6.28	-\$4,082.00
Concrete	DEDUCT: Concrete Header Curb	-43.00	LF	\$22.04	-\$947.72
Landscape	DEDUCT: Root Barrier	-62.00	LF	\$15.20	-\$942.40
Landscape - Trees	DEDUCT: Quercus Hemisphaerica / Laurel Oak (4" Cal.)	-1.00	EA	\$815.63	-\$815.63
Landscape - Trees	DEDUCT: Scarlet Oak (4" Cal.)	-1.00	EA	\$815.63	-\$815.63
Landscape - Trees	DEDUCT: Shumard Oak (4" Cal.)	-2.00	EA	\$815.63	-\$1,631.26
Landscape - Trees	DEDUCT: Willow Oak (4" Cal.)	-2.00	EA	\$721.88	-\$1,443.76
Landscape - Groundcovers	DEDUCT: blazing star / SUBSTITUTE STELLA DE ORE DAYLILY (1 Gal.)	-126.00	EA	\$9.95	-\$1,253.70
Landscape - Groundcovers	DEDUCT: Purple Coneflower (1 Gal.)	-68.00	EA	\$11.82	-\$803.76
Landscape - Shrubs	ADD-ON: Carolina Rose (3 Gal.)	9.00	EA	\$37.50	\$337.50
Mulch - Shredded Hardwood	ADD-ON: 4" Shredded Aged Hardwood Mulch	11.00	CY	\$114.38	\$1,258.18
Pavers	ADD-ON: Pavestone, Holland Stone Concrete Paver (60MM), Standard Oaks Blend Color, Parkway Finish (or equal)	1,316.00	SF	\$19.50	\$25,662.00
Concrete	ADD-ON: Concrete Banding - Parking/Road. 18" Thick, 4,000 psi w/ 5% Air Entrained Fiber Mesh, Gray Color, Finish Smooth Troweled Finish.	14.00	LF	\$27.38	\$383.32
Miscellaneous Materials	ADD-ON: #4 Rebar (x 4 rows) - Parking/Road	56.00	LF	\$1.88	\$105.28

Total Price -\$67,710.53

Approval

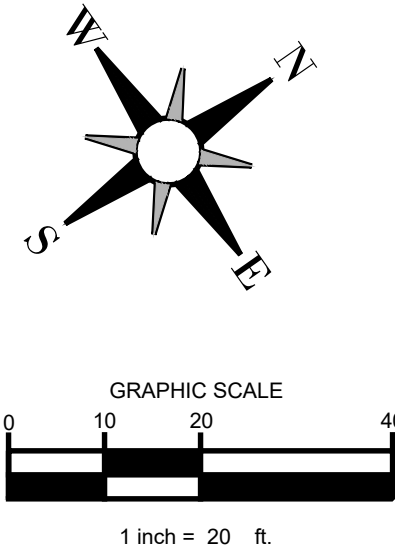
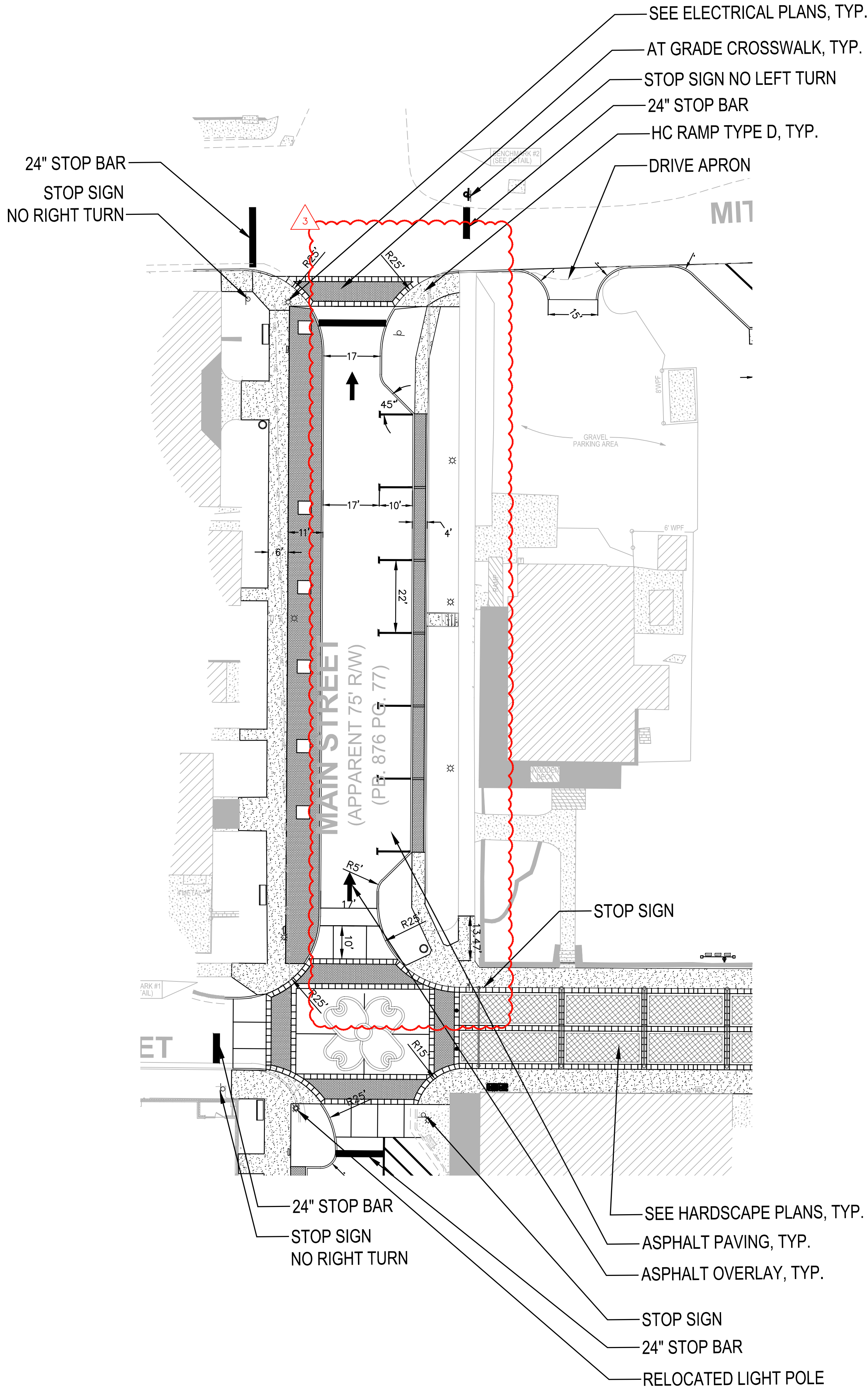
Company/Owner/Representative: _____



Authorized Signature: _____
Date: _____

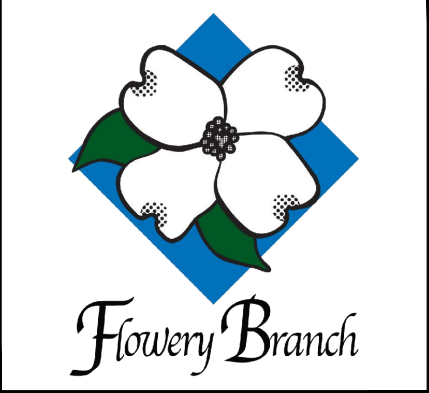
*****NOTE: Prices good for 15 Days*****

Author: meistrunk
Last saved by: meistrunk
Drawing name: S:\Projects\Flowery Branch\Flowery Branch Concept\CAD\Flowery Branch_CD_Sheets.DWG



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TEL (800) 274-9000
FAX (770) 831-9243
www.clarkpatterson.com

REVISIONS	DESCRIPTION		
	NO.	DATE	BY



CITY OF FLOWERY BRANCH
PARKS AND STREETSCAPE
IMPROVEMENTS
LL. 112. 8TH DISTRICT
HALL COUNTY
FLOWERY BRANCH GA 30542

DATE 4/14/22	DRAWN JP	CHECKED LAG
SCALE 1"=20.0'		
SHEET TITLE		
SITE PLAN SKETCH		

PROJECT NUMBER 15429.00
DRAWING NUMBER



7/5/2022

FROM:TO:

PROJECT: Flowery Branch Farmers Market, Stre

CONTRACT # CPL2021-001

Tri Scares, Inc.

Clark Patterson Lee

1595 Peachtree Parkway, Suite 204-396 3011 Sutton Gate Drive, Suite 130 CHANGE ORDER # 8 rev1

Cumming, GA 30041

Suwanee, Georgia 30024

RE:

Unforeseen 15in RCP Bypass

Office: 770-752-4698

678-318-1078

Fax: 770-752-6792

Contact: Jonathan Zambrano

Joseph Powell, PLA, ISA

Email: jonathan@triscares.com

JPowell@CPLteam.com

www.TriScares.com

<i>We hereby agree to make the change(s) specified below:</i>	<u>Unit</u>		<u>Unit</u>	<u>Ext.</u>
<u>15" RCP Bypass</u>	<u>QTY.</u>	<u>UOM</u>	<u>Cost</u>	<u>Amount</u>
Demolish unforeseen 15" RCP	1	LS	\$ 1,200.00	\$ 1,200.00
Install new Junction Box	1	LS	\$ 3,150.00	\$ 3,150.00
New 15" HDPE connect to existing JB A.3	1	LS	\$ 1,800.00	\$ 1,800.00
Core/cut existing JB A.3 for receipt of new 15" pipe	1	LS	\$ 600.00	\$ 600.00
Repave asphalt area removed to make connection to JB in the asphalt	1	LS	\$ 900.00	\$ 900.00
TOTAL AMOUNT OF THIS CHANGE ORDER :	\$			7,650.00

Change Order proposal notes:

Change Order proposal notes:

1) This Change Order becomes part of and in conformance with the existing Contract.

2) NO Addendum(s) are acknowledged.

3) Actual amounts to be quantified by onsite geotechnical representative.

Note: Price good for 30 days

Company/Owner/Representative:Authorized Signature:Date:Company/Owner/Representative:Authorized Signature:Date:



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider a Development Agreement with Makita USA, Inc. for Improvements to the City's Sewer System

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Makita USA, Inc. ("Makita") has proposed a 656,200 square foot development on Falcon Parkway. The City understands that Makita and its engineers have thoroughly pursued multiple options for connecting the development's new sewer service to the City's existing gravity sewer system. These options include:

- 1) Connection to a 12" Gravity Main by installation within or adjacent to an existing Force Main Easement— this option involved extending a new gravity sewer service pipe across Falcon Parkway to the east, through school property (possibly on city easement or adjacent), and connecting to gravity sewer to Martin Rd pump station. This pursuit ended due to the unlikelihood of having the space required to install within the existing easement, obtaining an additional easement from the Board of Education, and concern over the possibility of bedrock along the route.
- 2) Connection to 12" Gravity Main via County Easement at Fire House— this option involved extending the new gravity sewer service pipe across Falcon Parkway to the east, across County property at the Fire House, and connecting to the 12" Gravity Main within city easement to the east of said property.

Given the resistance to these options, the Makita development has proposed a new sewer service connection to the City's sewer system along Falcon Parkway via a "common" force main, which involves the junction of the development's new, private force main directly into the City's existing force main. Though the aforementioned service connection options would generally be more desirable to the City than allowing connection to the force main, the City understands that these pursuits have been met with resistance of various forms and that the proposed common force main connection is a reasonable course of action for the development.

FACTS AND ISSUES:

The proposed Sewer Development Agreement states that the proposed common force main connection is acceptable, and should the City find resolution to permitting and easement issues facing Makita USA's engineering group, including obtaining sewer easement rights and necessary GDOT approval, Makita will be required to construct the Gravity Line Connection option at its own expense (up to an agreed upon cost cap of \$410,575.00) and abandon the common force main connection. The City shall be responsible for any and all Costs in excess of the Cost Cap. The proposed Sewer Development Agreement also states that the City will be held harmless for damages caused by failure of the new check valves built on the private force main.

ATTACHMENTS:

- (1) Sewer Development Agreement by and between Makita USA, Inc and the City of Flowery Branch, Georgia for Access to and Maintenance of the Sanitary Sewer System

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the development agreement with Makita USA, Inc., for improvements to the city's sewer system.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary - Development Agreement with Makita \(final\).pdf](#)
- [Development Agreement \(City-Makita\) - v6 Execution Version.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Development Agreement with Makita USA, Inc. for Improvements to the City's Sewer System.

DATE: July 21, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- No change

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing a Sewer Development Agreement with Makita USA, Inc. allowing Makita USA to access the city sewer system by force main connection and providing provisions for required connection to the city's gravity sewer when and if easements and permits become available. Additionally, the agreement states that Makita USA will hold the city harmless against all damages resulting from failure of the check valves associated with the force main connection.

HISTORY: Makita USA, Inc. ("Makita") has proposed a 656,200 square foot development on Falcon Parkway. The City understands that Makita and its engineers have thoroughly pursued multiple options for connecting the development's new sewer service to the City's existing gravity sewer system. These options include:

- 1) Connection to a 12" Gravity Main by installation within or adjacent to an existing Force Main Easement– this option involved extending a new gravity sewer service pipe across Falcon Parkway to the east, through school property (possibly on city easement or adjacent), and connecting to gravity sewer to Martin Rd pump station. This pursuit ended due to the unlikelihood of having the space required to install within the existing easement, obtaining an additional easement from the Board of Education, and concern over the possibility of bedrock along the route.
- 2) Connection to 12" Gravity Main via County Easement at Fire House– this option involved extending the new gravity sewer service pipe across Falcon Parkway to the east, across County property at the Fire House, and connecting to the 12" Gravity Main within city easement to the east of said property.

Given the resistance to these options, the Makita development has proposed a new sewer service connection to the City's sewer system along Falcon Parkway via a "common" force main, which involves the junction of the development's new, private force main directly into the City's existing force main. Though the aforementioned service connection options would generally be more

desirable to the City than allowing connection to the force main, the City understands that these pursuits have been met with resistance of various forms and that the proposed common force main connection is a reasonable course of action for the development.

FACTS AND ISSUES: The proposed Sewer Development Agreement states that the proposed common force main connection is acceptable, and should the City find resolution to permitting and easement issues facing Makita USA's engineering group, including obtaining sewer easement rights and necessary GDOT approval, Makita will be required to construct the Gravity Line Connection option at its own expense (up to an agreed upon cost cap of \$410,575.00) and abandon the common force main connection. The City shall be responsible for any and all Costs in excess of the Cost Cap. The proposed Sewer Development Agreement also states that the City will be held harmless for damages caused by failure of the new check valves built on the private force main.

ATTACHMENTS:

- (1) Sewer Development Agreement by and between Makita USA, Inc and the City of Flowery Branch, Georgia for Access to and Maintenance of the Sanitary Sewer System
-
-

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the development agreement with Makita USA, Inc., for improvements to the city's sewer system.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

This instrument prepared by
and upon recording return to:

Ellen W. Smith
Parker Poe
1075 Peachtree Street N.E.
Suite 1500
Atlanta, GA 30309
(678) 690-5720

SEWER DEVELOPMENT AGREEMENT

THIS SEWER DEVELOPMENT AGREEMENT (this "Agreement") is made effective as of the ____ day of July, 2022 (the "Effective Date"), by and between MAKITA U.S.A, INC., a California corporation ("Owner"), and THE CITY OF FLOWERY BRANCH, a Georgia municipality (the "City").

RECITALS:

WHEREAS, Owner is the owner of certain real property located at 4200 Falcon Parkway, Flowery Branch, Hall County, Georgia (Parcel Numbers 08070-001002 and 08073-000004A), as more particularly described on **Exhibit A** attached hereto (the "Property");

WHEREAS, Owner is in the process of constructing a building and related improvements on the Property consisting of approximately 656,200 square feet of floor area (with expansion capabilities and a graded pad to support another approximately 192,000 square feet) to be used by Owner as an office and warehouse facility (the "Project");

WHEREAS, in connection with the Project, the City and its engineer reviewed several alternative designs for the Project to connect into the City's public sewer infrastructure located at or near the Property (the "Public Sewer System");

WHEREAS, the City's preferred sewer connection from the Project to the Public Sewer System is via a gravity line connection (the "Gravity Line Connection");

WHEREAS, the Gravity Line Connection requires certain offsite easement rights from properties located near the Property (the "Sewer Easement Rights");

WHEREAS, despite commercially reasonable efforts, Owner and the City have been unable to obtain the Sewer Easement Rights;

WHEREAS, in lieu of the Gravity Line Connection, and as a condition of Owner's entering into this Agreement, the City has approved a sewer connection from Owner's private sewer lines

located on the Property (the “Private Sewer System”) to the Public Sewer System via a force main connection, as depicted on **Exhibit B** attached hereto (the “Force Main Connection”); and

WHEREAS, the City desires that Owner be responsible to install the Gravity Line Connection if and when the Approvals (as defined below) are obtained by the City, subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the foregoing, the mutual covenants hereinafter contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Owner and the City (each a “Party”, or collectively, the “Parties”) agree as follows:

1. **Recitals.** The above stated Recitals are hereby incorporated as if fully stated herein.
2. **Sewer Easement Rights; GDOT Approval.** The City shall have the sole responsibility, at its cost and expense, to obtain (a) the Sewer Easement Rights, and (b) any necessary approvals from the Georgia Department of Transportation, such that the Gravity Line Connection can be lawfully constructed and installed as required by the City (collectively, the “Approvals”). The City shall provide written notice to Owner promptly upon securing the Approvals, which notice shall include fully executed and recorded copies of such documents evidencing the Approvals and written evidence that the City is holding funds budgeted for its reimbursement to Owner of the Excess Costs (as defined below) (collectively, the “Approval Notice”). Unless and until the City secures the Approvals and funds for reimbursement of the Excess Costs and provides the Approval Notice to Owner, Owner shall have no obligation to construct and install the Gravity Line Connection as provided herein, and the Force Main Connection shall remain the approved and usable connection point for the Property to the Public Sewer System.
3. **Gravity Line Connection.** In the event the City obtains the Approvals and provides the Approval Notice as provided in Section 2 hereof, Owner shall construct and install the Gravity Line Connection as a replacement for the Force Main Connection. The Parties shall meet and confer in good faith to finalize the design, schedule, budget, construction, and any other related matters with respect to the Gravity Line Connection within one hundred twenty (120) days after Owner’s receipt of the Approval Notice. Owner shall thereafter construct and install the Gravity Line Connection at its cost and expense, subject to Section 4 hereof. The City shall provide Owner with all necessary permits, consents, approvals, and rights of access necessary for Owner to fulfill its obligations under this Agreement.
4. **Cost Cap.** Owner’s maximum contribution to the costs, assessments, fees and expenses of the construction and installation of the Gravity Line Connection (collectively, the “Costs”) shall be Four Hundred Ten Thousand, Five Hundred Seventy-Five and No/100 Dollars (\$410,575.00) (the “Cost Cap”). The City shall be responsible for any and all Costs in excess of the Cost Cap (the “Excess Costs”), and shall reimburse Owner for the Excess Costs within thirty (30) days after receipt of written notice from Owner after completion of the Gravity Line Connection, which notice shall include reasonable backup evidence (e.g., invoices from contractors) of the Excess Costs.

5. **Hold Harmless Obligation.** As part of the Project, Owner installed certain check valves (the “Check Valves”) within the Private Sewer System, which serve to prevent effluent from the Public Sewer System entering into the Private Sewer System as a result of a failure of the Public Sewer System. Owner has sole maintenance responsibility with respect to the Check Valves and the Private Sewer System. So long as the Force Main Connection remains in use by Owner, Owner hereby agrees to hold harmless the City from and against any and all damages, liabilities, losses, claims, causes of action, costs, and expenses (including reasonable attorney's fees), resulting from a failure of the Check Valves. The hold harmless obligation set forth herein shall be null and void upon Owner’s completion of the Gravity Line Connection.

6. **Notices.** All notices required or permitted to be given hereunder shall be in writing and delivered: (a) in person; (b) by certified or registered first class prepaid U.S. Mail, return receipt requested; (c) prepaid by nationally-recognized overnight courier service such as FedEx; or (d) via email, to the Parties at their respective addresses set forth below, or at such other addresses, notice of which shall previously have been given to the other Party in accordance with this Section. Such notices shall be deemed given when: (i) personally delivered; (ii) deposited in the mail or with such courier service; or (iii) sent to the receiving party via email, as applicable.

City: City of Flowery Branch
5410 West Pine Street
Flowery Branch, Georgia 30542
Attn: Tonya Parrish, City Manager
Email: tonya@flowerybranchga.org

Copy to: Carothers & Mitchell, LLC
1809 Buford Highway
Buford, Georgia 30518
Attn: E. Ronald Bennett, Jr.
Email: ron.bennett@carmitch.com

Owner: Makita U.S.A., Inc.
14930 Northam Street
La Mirada, California 90638
Attn: Joe Blackwell
Email: jblackwell@makitausa.com

Copy to: Parker Poe Adams & Bernstein, LLP
1075 Peachtree Street NE, Suite 1500
Atlanta, Georgia 30309
Attn: Ellen W. Smith
Email: ellensmith@parkerpoe.com

7. **Obligations Run with the Land.** This Agreement shall be recorded in the Official Records of Hall County, Georgia, and the terms, conditions, and obligations set forth herein shall run with the land.

8. **Binding Effect.** This Agreement shall be binding upon, and inure to the benefit of, the Parties and their respective successors, heirs, and assigns.

9. **Amendments.** This Agreement may not be modified or amended except in a written agreement signed by all Parties hereto, and recorded in the Official Records of Hall County, Georgia.

10. **Entire Agreement.** This Agreement contains the entire agreement between the Parties hereto with respect to the subject matter set forth herein and supersedes any and all other agreements, oral or written, with respect to the subject matter of this Agreement.

11. **Severability.** If any provision of this Agreement is or should become wholly or partially invalid or unenforceable for any reason whatsoever or violate any applicable law, this Agreement is to be considered divisible as to such provision and such provision is to be deleted from this Agreement, and the remainder of this Agreement shall be deemed valid and binding as if such provision were not included herein.

12. **Rule of Construction.** No provision of this Agreement shall be construed by any court or other judicial authority against any Party hereto by reason of such Party's being deemed to have drafted or structured such provisions.

13. **Governing Law; Attorneys' Fees.** This Agreement shall be governed by the laws of the State of Georgia, without regard to its conflict of laws principles or rules. In the event of the commencement of any such action, suit or proceeding, the Party prevailing in such matter shall be entitled to collect from the non-prevailing Party the costs incurred by the prevailing Party in such matter, including, without limitation, reasonable attorneys' fees actually incurred without limitation by O.C.G.A. 13-1-11.

14. **Waiver.** The failure of any Party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of any right thereunder, nor shall it deprive that Party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement, and any waiver must be made in writing.

15. **Counterparts.** This Agreement may be executed in one or more counterparts by any Party hereto and by all Party hereto in separate counterparts, each of which, when so executed and delivered to the other Parties, shall be deemed an original. All such counterparts together shall constitute one and the same instrument.

16. **Time is of the Essence.** Time is of the essence for all matters set forth in this Agreement.

17. **Exhibits.** All Exhibits attached hereto are incorporated herein by reference.

[Remainder of page intentionally left blank; signature page follows.]

IN WITNESS WHEREOF, Owner and the City have executed and delivered this Agreement under seal to be effective as of the Effective Date.

Signed, sealed and delivered
in the presence of:

OWNER:
MAKITA U.S.A., INC., a California
corporation

Unofficial Witness

Print

Name: _____

By: _____

Name:

Title:

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

Attest: _____

Name:

Title:

STATE OF CALIFORNIA

COUNTY OF _____

Subscribed to and sworn to (or affirmed)
before me on this _____ day of
_____, 2022 by

[CORPORATE SEAL]

_____,
proved to me on the basis of satisfactory
evidence to be the person(s) who appeared
before me.

Signature _____
Notary Public

(SEAL)

Signed sealed and delivered in the presence of:

Witness

Notary Public

My Commission Expires:_____

(NOTARIAL SEAL)

CITY:
THE CITY OF FLOWERY BRANCH, a
political subdivision of the State of Georgia

By:_____

Name:_____

Title:_____

Attested to by:

By:_____

Name:_____

Title:_____

EXHIBIT A

Legal Description of the Property

All that tract or parcel of land lying and being in Land Lots 72 and 73 of the 8th Land District, City of Flowery Branch, Hall County, Georgia, said tract or parcel of land being more fully shown and designated on a plat of survey prepared by Valentino & Associates, Inc. (Job #19-017; Drawing/File #19-017), bearing the seal of Glenn A. Valentino, Ga. Registered Land Surveyor #2528, and being more particularly described, with bearings relative to Grid North, Georgia West Zone, as follows:

TO FIND THE POINT OF BEGINNING, COMMENCE at a 2" open top pipe found at the common corner of Land Lots 69, 70, 72 and 73;

THENCE South 58 degrees 29 minutes 26 seconds West for a distance of 379.22 feet to a computed point on the northeasterly right-of-way line of Martin Road Extension (public r/w varies);

THENCE South 58 degrees 29 minutes 26 seconds West for a distance of 10.76 feet to a computed point;

THENCE South 57 degrees 52 minutes 05 seconds West for a distance of 237.10 feet to a computed point;

THENCE South 57 degrees 39 minutes 45 seconds West for a distance of 56.93 feet to a concrete r/w monument found on the northwesterly right-of-way line of aforesaid Martin Road Extension, said concrete r/w monument found being the POINT OF BEGINNING.

THENCE proceeding along said northwesterly right-of-way line of Martin Road Extension South 25 degrees 59 minutes 24 seconds West for a distance of 183.15 feet to a concrete r/w monument found;

THENCE South 17 degrees 16 minutes 53 seconds East for a distance of 385.63 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying South 48 degrees 07 minutes 50 seconds West for a distance of 1.28 feet;

THENCE North 69 degrees 59 minutes 42 seconds East for a distance of 169.78 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 980.00 feet for an arc distance of 403.54 feet (said arc being subtended by a chord of South 31 degrees 53 minutes 00 seconds East for a distance of 400.69 feet) to a concrete r/w monument found;

THENCE South 45 degrees 23 minutes 40 seconds West for a distance of 10.31 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 990.00 feet for an arc distance of 273.34 feet (said arc being subtended by a chord of South 51 degrees 35 minutes 04 seconds East for a distance of 272.47 feet) to a 1/2" iron pin set at the intersection of the northwesterly right-of-way line of Falcon Parkway (S.R. #13, public r/w varies);

THENCE proceeding southwesterly along the northwesterly right-of-way line of said Falcon Parkway South 34 degrees 16 minutes 08 seconds West for a distance of 414.72 feet to a 1/2" iron pin set;

THENCE South 36 degrees 09 minutes 50 seconds East for a distance of 4.53 feet to a concrete r/w monument found;

THENCE South 53 degrees 43 minutes 37 seconds West for a distance of 220.91 feet to a concrete r/w monument found;

THENCE North 36 degrees 45 minutes 34 seconds West for a distance of 30.22 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying North 53 degrees 26 minutes 43 seconds East for a distance of 0.94 feet;

THENCE South 53 degrees 42 minutes 30 seconds West for a distance of 122.61 feet to a concrete r/w monument found;

THENCE South 36 degrees 04 minutes 05 seconds East for a distance of 39.60 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 2371.83 feet for an arc distance of 317.93 feet (said arc being subtended by a chord of South 49 degrees 47 minutes 30 seconds West for a distance of 317.70 feet) to a concrete r/w monument found;

THENCE South 43 degrees 27 minutes 31 seconds East for a distance of 9.66 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying North 75 degrees 41 minutes 17 seconds West for a distance of 1.18 feet;

THENCE along a curve to the left having a radius of 2361.83 feet for an arc distance of 53.71 feet (said arc being subtended by a chord of South 45 degrees 48 minutes 48 seconds West for a distance of 53.71 feet) to a concrete r/w monument found;

THENCE South 44 degrees 14 minutes 21 seconds West for a distance of 47.94 feet to a concrete r/w monument found;

THENCE South 46 degrees 14 minutes 35 seconds East for a distance of 10.07 feet to a concrete r/w monument found;

THENCE South 44 degrees 50 minutes 12 seconds West for a distance of 300.18 feet to a concrete r/w monument found;

THENCE South 45 degrees 52 minutes 07 seconds East for a distance of 22.05 feet to a concrete r/w monument found;

THENCE South 45 degrees 52 minutes 07 seconds East for a distance of 8.05 feet to a 1/2" iron pin set;

THENCE South 44 degrees 27 minutes 07 seconds West for a distance of 593.67 feet to a 1/2" iron pin set;

THENCE along a curve to the right having a radius of 1010.00 feet for an arc distance of 127.19 feet (said arc being subtended by a chord of South 48 degrees 03 minutes 34 seconds West for a distance of 127.11 feet) to a computed point;

THENCE along a curve to the right having a radius of 1010.00 feet for an arc distance of 58.86 feet (said arc being subtended by a chord of South 53 degrees 20 minutes 12 seconds West for a distance of 58.85 feet) to a 1/2" rebar found;

THENCE departing said right-of-way line of Falcon Parkway North 29 degrees 20 minutes 33 seconds West for a distance of 1731.16 feet to a 1/2" iron pin found on the southeasterly right-of-way line of Interstate 985 (S.R. #365, limited access public r/w varies);

THENCE proceeding northeasterly along said right-of-way line of Interstate 985 North 41 degrees 54 minutes 20 seconds East for a distance of 179.39 feet to a 1/2" rebar found;

THENCE North 41 degrees 41 minutes 23 seconds East for a distance of 25.59 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 11457.89 feet for an arc distance of 704.56 feet (said arc being subtended by a chord of North 39 degrees 51 minutes 03 seconds East for a distance of 704.45 feet) to a concrete r/w monument found;

THENCE along a curve to the right having a radius of 1343.34 feet for an arc distance of 120.12 feet (said arc being subtended by a chord of North 47 degrees 23 minutes 55 seconds East for a distance of 120.08 feet) to a concrete r/w monument found;

THENCE North 63 degrees 01 minutes 14 seconds East for a distance of 48.74 feet to a concrete r/w monument found;

THENCE along a curve to the right having a radius of 1333.34 feet for an arc distance of 147.21 feet (said arc being subtended by a chord of North 55 degrees 07 minutes 04 seconds East for a distance of 147.14 feet) to a concrete r/w monument found;

THENCE North 58 degrees 21 minutes 06 seconds East for a distance of 475.88 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 1260.00 feet for an arc distance of 23.71 feet (said arc being subtended by a chord of North 57 degrees 55 minutes 10 seconds East for a distance of 23.71 feet) to a concrete r/w monument found;

THENCE South 31 degrees 26 minutes 06 seconds East for a distance of 11.47 feet to a concrete r/w

Exhibit A

monument found;

THENCE along a curve to the left having a radius of 1271.36 feet for an arc distance of 210.45 feet (said arc being subtended by a chord of North 52 degrees 28 minutes 33 seconds East for a distance of 210.21 feet) to a concrete r/w monument found;

THENCE North 42 degrees 11 minutes 16 seconds West for a distance of 20.84 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 1250.00 feet for an arc distance of 206.17 feet (said arc being subtended by a chord of North 43 degrees 01 minutes 34 seconds East for a distance of 205.93 feet) to a concrete r/w monument found;

THENCE North 38 degrees 08 minutes 44 seconds East for a distance of 36.35 feet to a concrete r/w monument found;

THENCE North 87 degrees 26 minutes 37 seconds East for a distance of 71.20 feet to a concrete r/w monument found at the intersection with the southwesterly right-of-way line of aforesaid Martin Road Extension;

THENCE proceeding along said right-of-way line of Martin Road Extension along a curve to the right having a radius of 870.00 feet for an arc distance of 313.68 feet (said arc being subtended by a chord of South 33 degrees 46 minutes 11 seconds East for a distance of 311.99 feet) to a concrete r/w monument found;

THENCE South 26 degrees 03 minutes 38 seconds West for a distance of 101.79 feet to a concrete r/w monument found, said concrete r/w monument found being the POINT OF BEGINNING.

Said tract or parcel of land contains 80.773 acres or 3,518,491 square feet.

LESS AND EXCEPT THAT CERTAIN 0.192 ACRES (8,346) SQUARE FEET DEDICATED TO GDOT:

All that tract or parcel of land lying and being in Land Lot 72 of the 8th Land District, City of Flowery Branch, Hall County, Georgia, said tract or parcel of land being more fully shown and designated on a plat of survey prepared by Valentino & Associates, Inc. (Job #19-017; Drawing/File #19-017-LC), bearing the seal of Glenn A. Valentino, Ga. Registered Land Surveyor #2528, and being more particularly described, with bearings relative to Grid North, Georgia West Zone, as follows:

TO FIND THE POINT OF BEGINNING, COMMENCE at a 1/2" iron pin set at the intersection of the northeasterly right-of-way line of Martin Road Extension (public r/w varies per Georgia Department of Transportation project number NHS00-0000-00(425)) and the northwesterly right-of-way line of Falcon Parkway (S.R. #13, public r/w varies per Georgia Department of Transportation project number NHS00-0000-00(425)); THENCE proceeding southwesterly along the existing northwesterly right-of-way line of said Falcon Parkway the following courses and distances, South 34 degrees 16 minutes 08 seconds West for a distance of 414.72 feet to a 1/2" iron pin set; THENCE South 36 degrees 09 minutes 50 seconds East for a distance of 4.53 feet to a concrete r/w monument found; THENCE South 53 degrees 43 minutes 37 seconds West for a distance of 220.91 feet to a concrete r/w monument found; THENCE North 36 degrees 45 minutes 34 seconds West for a distance of 30.22 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying North 53 degrees 26 minutes 43 seconds East for a distance of 0.94 feet; THENCE South 53 degrees 42 minutes 30 seconds West for a distance of 122.61 feet to a concrete r/w monument found; THENCE South 36 degrees 04 minutes 05 seconds East for a distance of 39.60 feet to a concrete r/w monument found; THENCE along a curve to the left having a radius of 2371.83 feet for an arc distance of 317.93 feet (said arc being subtended by a chord of South 49 degrees 47 minutes 30 seconds West for a distance of 317.70 feet) to a concrete r/w monument found; THENCE South 43 degrees 27 minutes 31 seconds East for a distance of 9.66 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying North 75 degrees 41 minutes 17 seconds West for a distance of 1.18 feet; THENCE along a curve to the left having a radius of 2361.83 feet for an arc

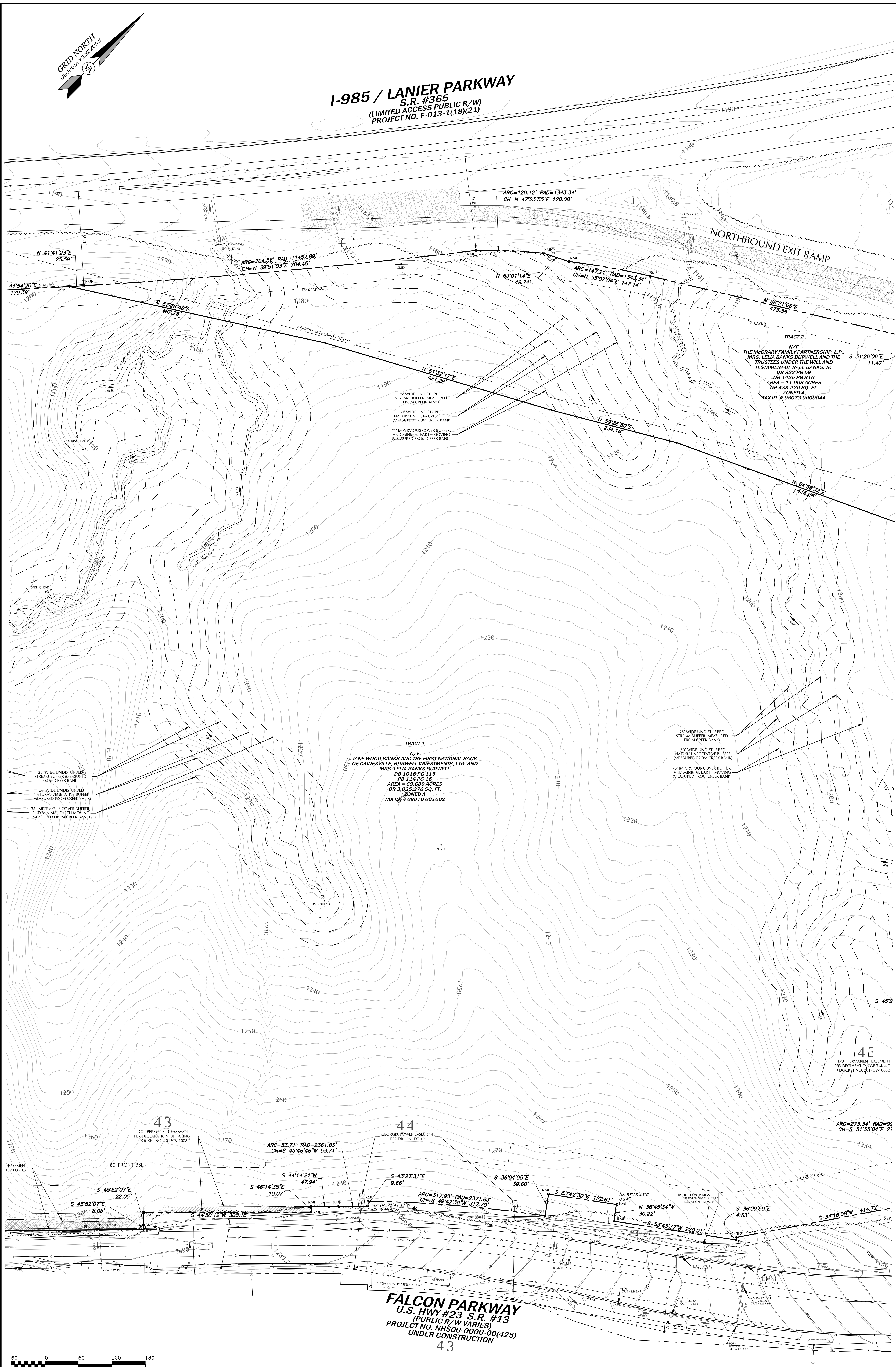
distance of 53.71 feet (said arc being subtended by a chord of South 45 degrees 48 minutes 48 seconds West for a distance of 53.71 feet) to a concrete r/w monument found; THENCE South 44 degrees 14 minutes 21 seconds West for a distance of 47.94 feet to a concrete r/w monument found; THENCE South 46 degrees 14 minutes 35 seconds East for a distance of 10.07 feet to a concrete r/w monument found; THENCE South 44 degrees 50 minutes 12 seconds West for a distance of 300.18 feet to a concrete r/w monument found; THENCE South 45 degrees 52 minutes 07 seconds East for a distance of 16.19 feet to a 1/2" iron pin set, said 1/2" iron pin set being the POINT OF BEGINNING. THENCE continuing along said existing northwesterly right-of-way line of Falcon Parkway the following courses and distances, South 45 degrees 52 minutes 07 seconds East for a distance of 5.87 feet to a concrete r/w monument found; THENCE South 45 degrees 52 minutes 07 seconds East for a distance of 8.05 feet to a 1/2" iron pin set; THENCE South 44 degrees 27 minutes 07 seconds West for a distance of 593.67 feet to a 1/2" iron pin set; THENCE along a curve to the right having a radius of 1010.00 feet for an arc distance of 127.19 feet (said arc being subtended by a chord of South 48 degrees 03 minutes 34 seconds West for a distance of 127.11 feet) to a 1/2" iron pin set; THENCE departing said existing northwesterly right-of-way line of Falcon Parkway and along the proposed northwesterly right-of-way line of said Falcon Parkway the following courses and distances, North 38 degrees 19 minutes 58 seconds West a distance of 4.87 feet to a 1/2" iron pin set; THENCE along a curve to the left having a radius of 1050.75 feet for an arc length of 109.90 feet, being subtended by a chord of North 47 degrees 27 minutes 18 seconds East for a distance of 109.85 feet to a 1/2" iron pin set; THENCE North 44 degrees 27 minutes 31 seconds East a distance of 249.85 feet to a 1/2" iron pin set; THENCE along a curve to the left having a radius of 28.15 feet for an arc length of 24.49 feet, being subtended by a chord of North 19 degrees 31 minutes 57 seconds East for a distance of 23.73 feet to a 1/2" iron pin set; THENCE North 44 degrees 27 minutes 31 seconds East a distance of 301.94 feet to a 1/2" iron pin set; THENCE North 49 degrees 14 minutes 30 seconds East a distance of 36.96 feet to a 1/2" iron pin set on said existing northwesterly right-of-way line of Falcon Parkway, said 1/2" iron pin set being the POINT OF BEGINNING.

EXHIBIT B
Force Main Connection

[See attached.]



I-985 / LANIER PARKWAY
S.R. #365
(LIMITED ACCESS PUBLIC R/W)
PROJECT NO. F-013-1(18)(21)



ALTA/NSPS LAND TITLE SURVEY FOR:

THE MCCRARY FAMILY PARTNERSHIP, L.P., A GEORGIA LIMITED PARTNERSHIP, JANE WOOD BANKS AND THE FIRST NATIONAL BANK OF GAINESVILLE, AS TRUSTEES UNDER ITEM FOUR OF THE LAST WILL AND TESTAMENT OF RAFAEL BANKS, JR., BURWELL INVESTMENTS, LTD., AN ALABAMA LIMITED LIABILITY COMPANY, MRS. LELIA BANKS BURWELL, SCANNELL PROPERTIES, LLC, AN INDIANA LIMITED LIABILITY COMPANY AND FIRST AMERICAN TITLE INSURANCE COMPANY

LAND LOTS 72 & 73, 8TH DISTRICT, GMD 1270 & 1605, CITY OF FLOWERY BRANCH, HALL COUNTY, GEORGIA

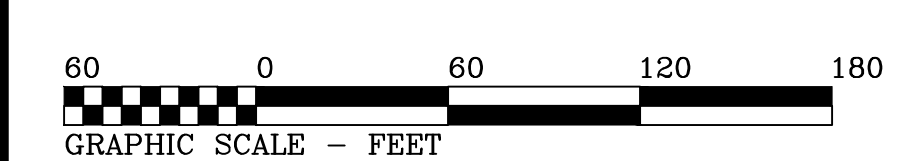
VA
VALENTINO & ASSOCIATES, INC.
LAND SURVEYORS
4045 ORCHARD ROAD
BUILDING 200
SMYRNA, GEORGIA 30080
PHONE: (770) 438-0015
FAX: (770) 435-6050
WEB: VALENTINOSURVEY.COM
STATE OF GEORGIA LAND SURVEYING FIRM LICENSE NO. 15F000794

REVISIONS
4/29/19: ADDED AERIAL TOPOGRAPHY.
5/8/19: REVISED BOUNDARY LINES TO REFLECT NEW CORNER PINS FOUND.

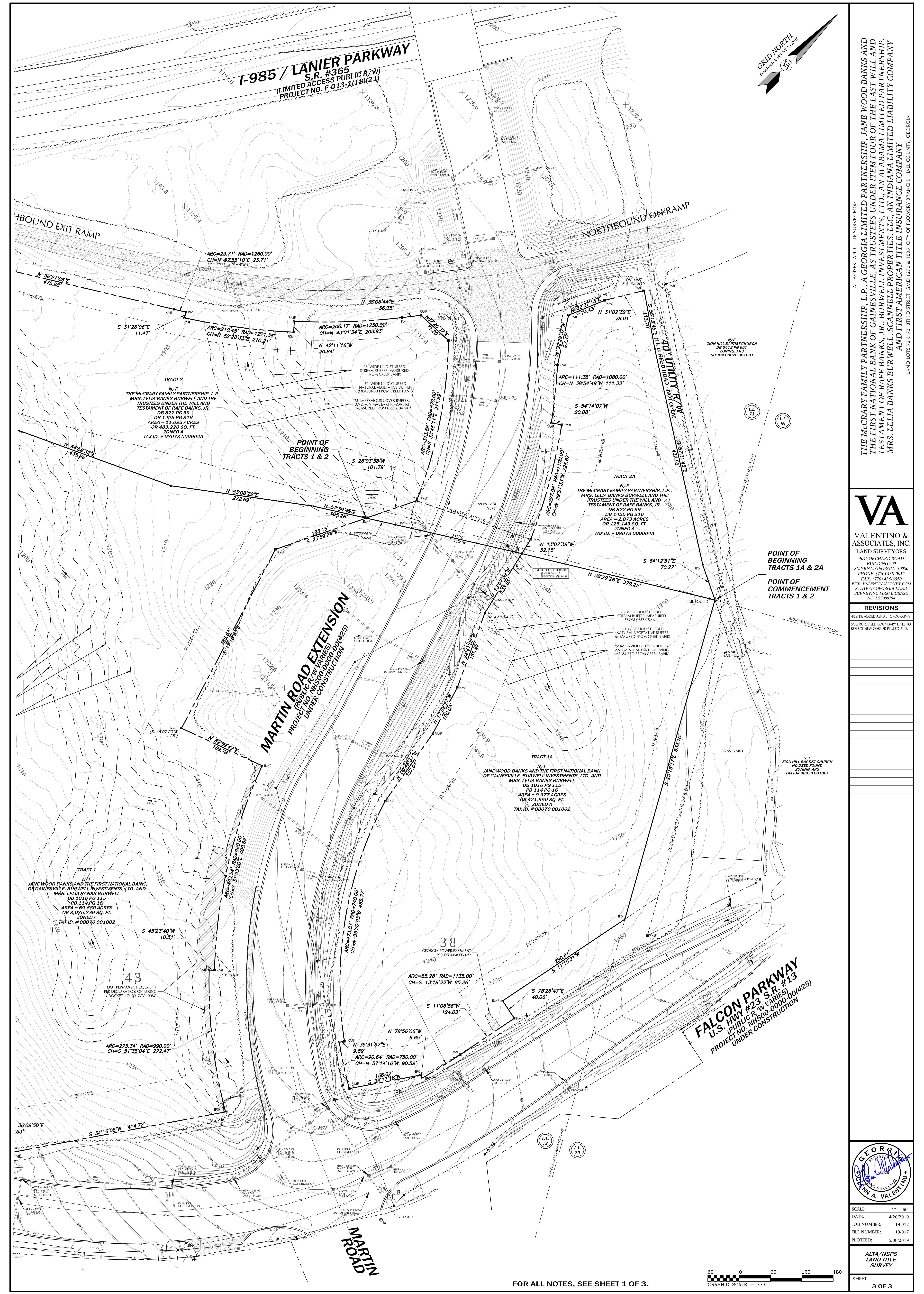
SCALE: 1" = 60'
DATE: 4/26/2019
JOB NUMBER: 19-017
FILE NUMBER: 19-017
PLOTTED: 5/08/2019

ALTA/NSPS LAND TITLE SURVEY

SHEET 2 OF 3



FOR ALL NOTES, SEE SHEET 1 OF 3.



ALTA/NSPS LAND TITLE SURVEY FOR:

THE MCCRARY FAMILY PARTNERSHIP, L.P., A GEORGIA LIMITED PARTNERSHIP, JANE WOOD BANKS AND THE FIRST NATIONAL BANK OF GAINESVILLE, AS TRUSTEES UNDER ITEM FOUR OF THE LAST WILL AND TESTAMENT OF RAFAEL BANKS, JR., BURWELL INVESTMENTS, LTD., AN ALABAMA LIMITED LIABILITY COMPANY, MRS. LELIA BANKS BURWELL, SCANNELL PROPERTIES, LLC, AN INDIANA LIMITED LIABILITY COMPANY AND FIRST AMERICAN TITLE INSURANCE COMPANY

LAND LOTS 72 & 73, 8TH DISTRICT, GMD 1270 & 1605, CITY OF FLOWERY BRANCH, HALL COUNTY, GEORGIA

VA
VALENTINO & ASSOCIATES, INC.
LAND SURVEYORS
4045 ORCHARD ROAD
BUILDING 200
SMYRNA, GEORGIA 30080
PHONE: (770) 438-0015
FAX: (770) 435-6050
WEB: VALENTINOSURVEY.COM
STATE OF GEORGIA LAND SURVEYING FIRM LICENSE NO. LSP000794

REVISIONS

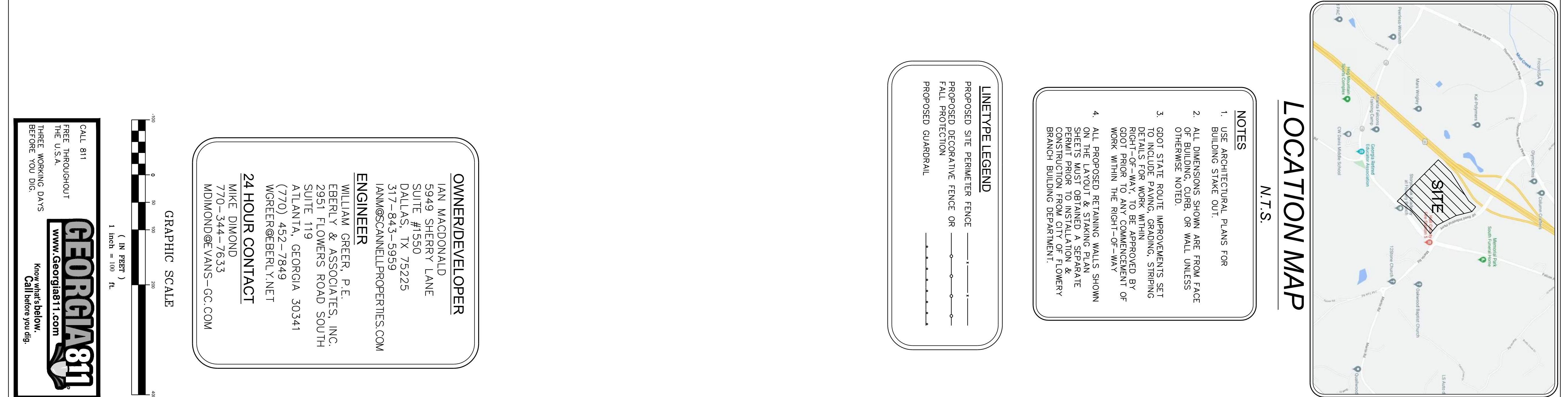
NO.	DATE	DESCRIPTION
1	4/26/19	ADDED AERIAL TOPOGRAPHY.
2	5/8/19	REVISED BOUNDARY LINES TO REFLECT NEW CORNER PINS FOUND.

GEORGIA
LAND SURVEYORS
A. VALENTINO

SCALE: 1" = 60'
DATE: 4/26/2019
JOB NUMBER: 19-017
FILE NUMBER: 19-017
PLOTTED: 5/08/2019

ALTA/NSPS LAND TITLE SURVEY

SHEET 3 OF 3



N.T.S.

1. USE ARCHITECTURAL PLANS FOR BUILDING STATE OUT.
2. ALL DIMENSIONS SHOWN ARE FROM FACE OF WALL UNLESS OTHERWISE NOTED.
3. EDOT STATE ROUTE IMPROVEMENTS SETBACKS, INCLUDING SHARPENING RIGHT-OF-WAY, TO BE APPROVED BY EDOT PRIOR TO ANY COMMENCEMENT OF WORK WITHIN THE RIGHT-OF-WAY.
4. ALL PROPOSED RETAINING WALLS SHOW ON THE LAYOUT & SINKING PLAN. PERMITS SHALL OBTAIN A SEPARATE PERMIT FOR THE CONSTRUCTION OF CONSTRUCTION FLOOD CITY OF FLOWERY BRANCH BUILDING DEPARTMENT.

PROPOSED SITE PERIMETER FENCE ———— · ———— · ————
 PROPOSED DECORATIVE FENCE OR
 FALL PROTECTION ○ ———— ○ ———— ○ ————
 PROPOSED GUARDRAIL ······

LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA
4200 FALCON PARKWAY



TEL: 770.452.7849 FAX: 770.452.0086
2951 FLOWERS ROAD SOUTH, STE 119
ATLANTA, GEORGIA 30341
WWW.EBERLY.NET

EBERTY & ASSOCIATES

LAND PLANNING

CIVIL ENGINEERING

LANDSCAPE ARCHITECTURE

REVISIONS:

[illegible]

SCALE:	1"= 100'
DATE:	10/16/20
DRAWN BY:	GS
PROJECT MANAGER:	WILLIAM GREER, P.E.
QA/QC CHECK:	WR & BB

19-036

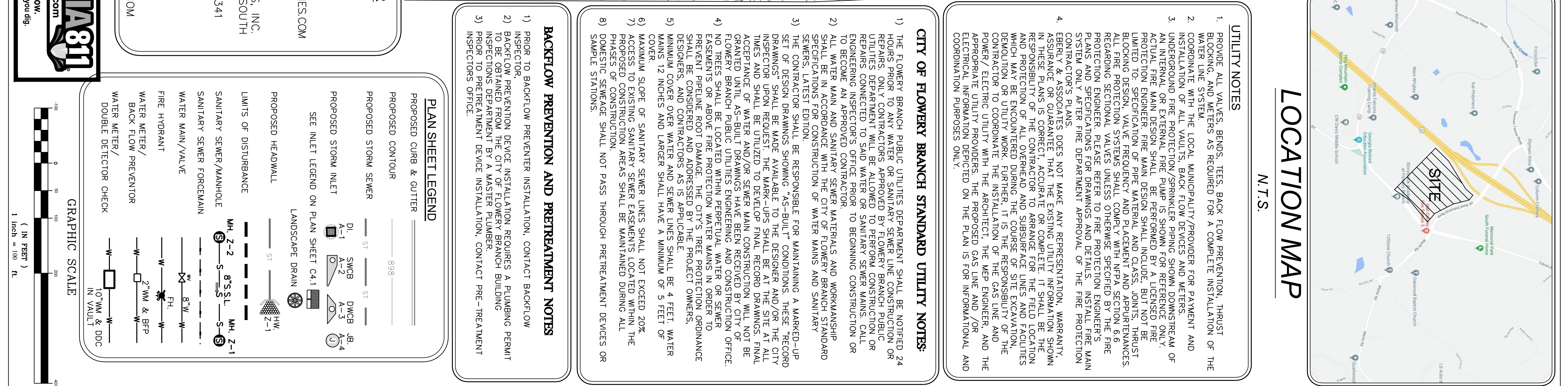
SHEET NO.

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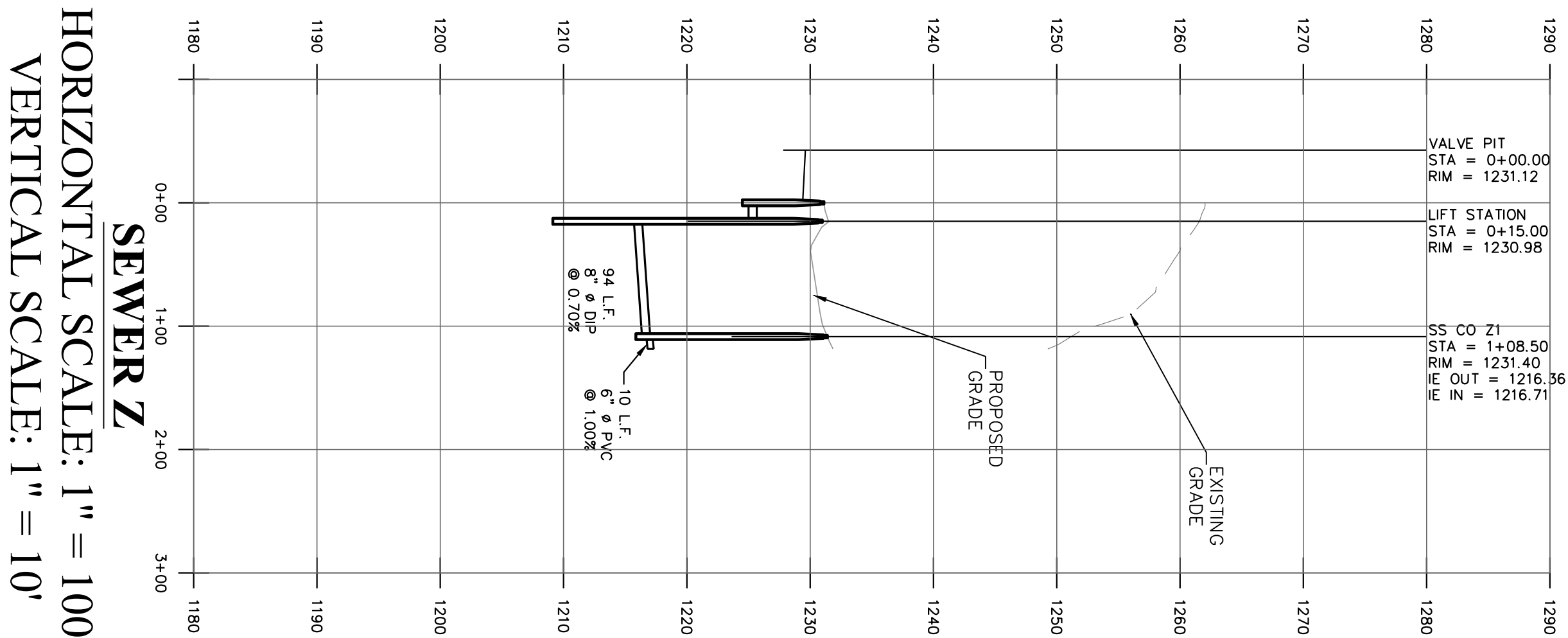
CALL 811
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THREE WORKING DAYS
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G:\PROJECTS\2019\19-036 Scannell Falcons Parkway Flowery Branch\5.0 Drawing\30x42 Base.dwg June 10, 2022



SEWER Z

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'

REVISIONS:

05/17/02	FOREMAN TIP REV	OFF- SITE, SINKER REVISION	12/21/01	OFF- SITE, SINKER REVISION
06/28/02	FOREMAN TAP	OFF- TA, CHILL, AND LA REV	01/29/02	OFF- SITE, SINKER REVISION
07/02/02	OFFICE CANOPY CORO	C.A.S & FINISH EXHAUST REV	02/26/02	C.A.S & FINISH EXHAUST REV
7/23/02	YARD ELEVATION # 6	OFF- TA, CHILL & LA REV	03/04/02	OFF- TA, CHILL & LA REV
08/20/02	ROOF BEAM, MANHOOD & 2	OFF- SITE, SINKER REVISION	03/15/02	OFF- SITE, SINKER REVISION
08/13/02	DO PIPE MATERIAL, CHANGES	CLIMBER GATE & FENCE REV	03/18/02	CLIMBER GATE & FENCE REV
		SPINNER LAMP AMENDMENT	03/24/02	SPINNER LAMP AMENDMENT
03/30/02	LAMINATOR SLOPE REV		03/30/02	LAMINATOR SLOPE REV
04/28/02				
05/17/02				

PROJECT:

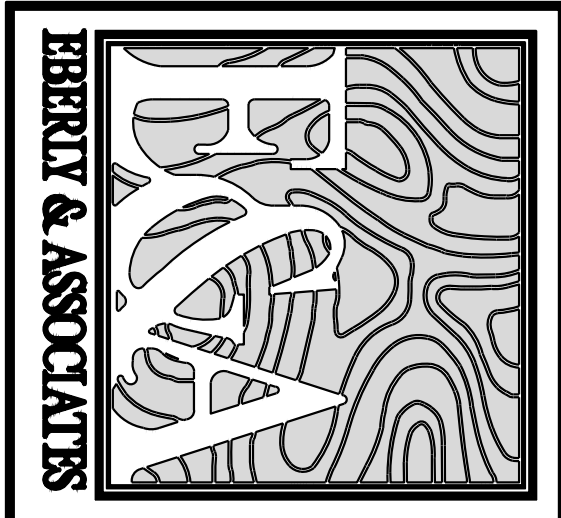
PROJECT FALCON

LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA
4200 FALCON PARKWAY



LANDSCAPE ARCHITECTURE
CIVIL ENGINEERING
LAND PLANNING

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PROFILE PLAN

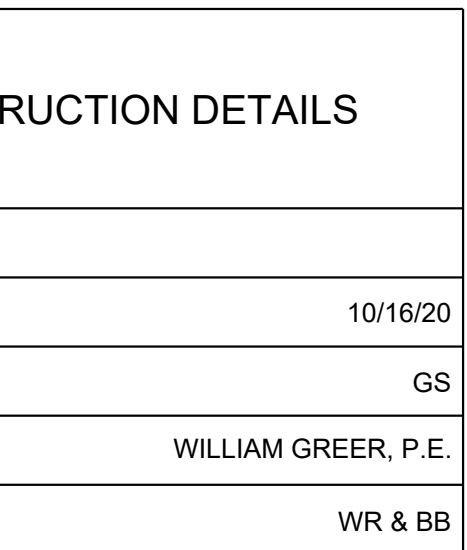
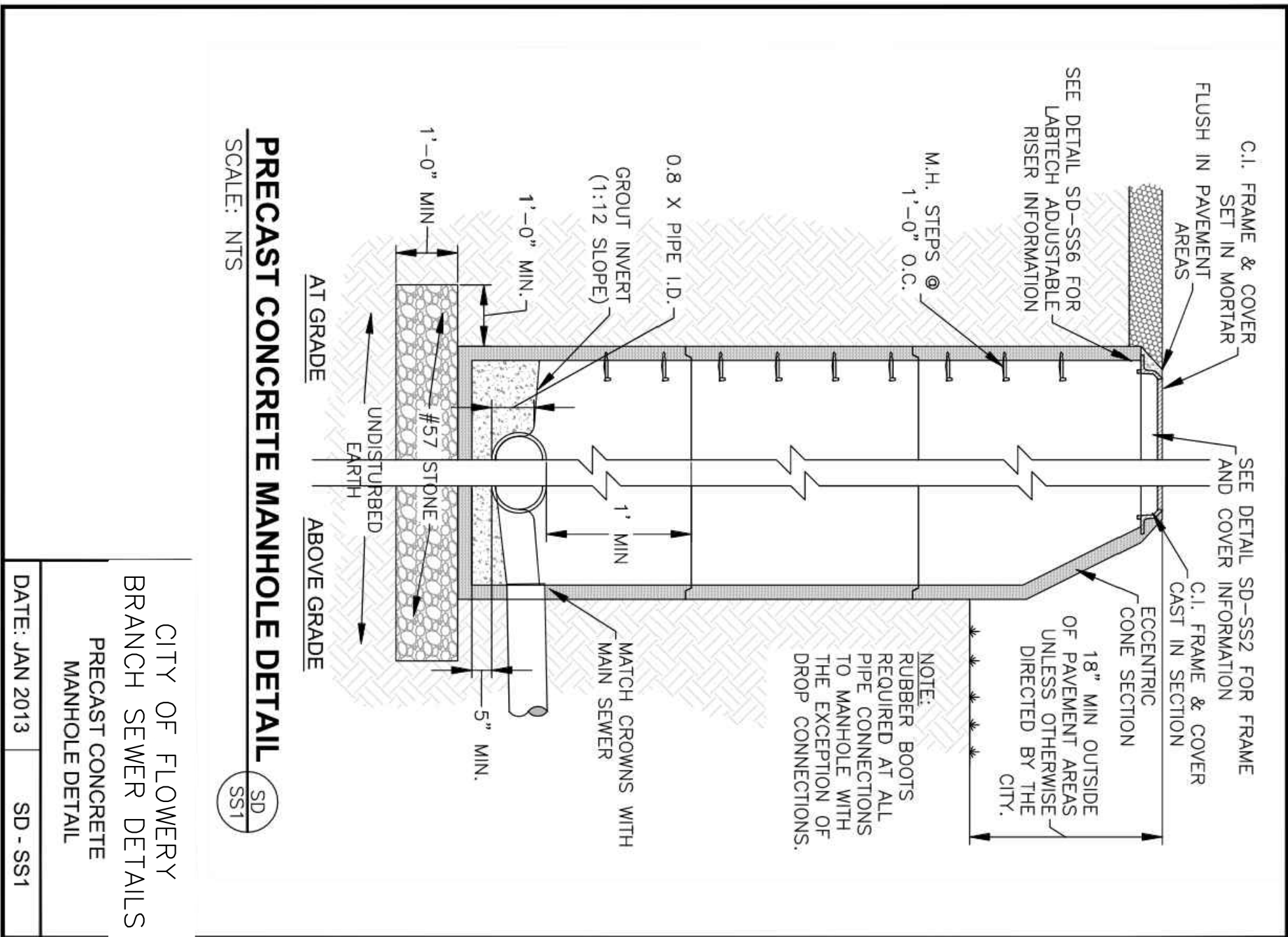
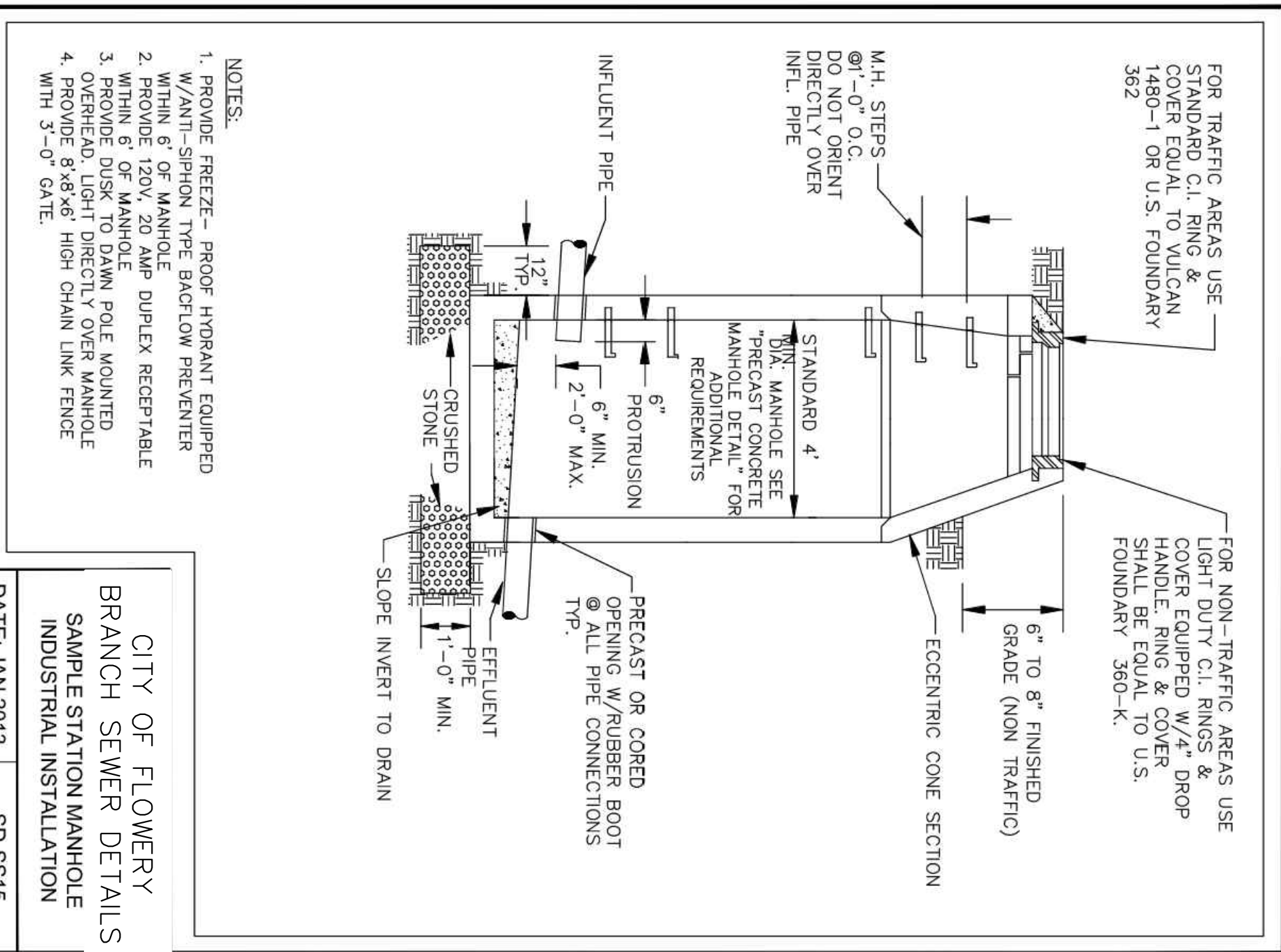
SCALE:	1"= 100'
DATE:	10/16/20
DRAWN BY:	GS
PROJECT MANAGER:	WILLIAM GREER, P.E.
QA/QC CHECK:	WR & BB

PROJECT NO

19-036

SHEET NO.

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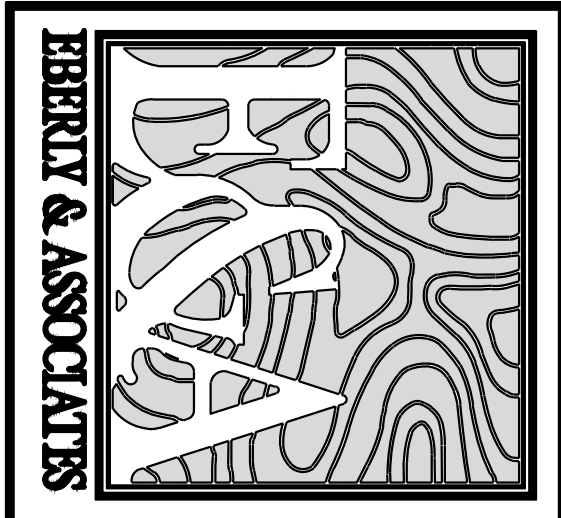
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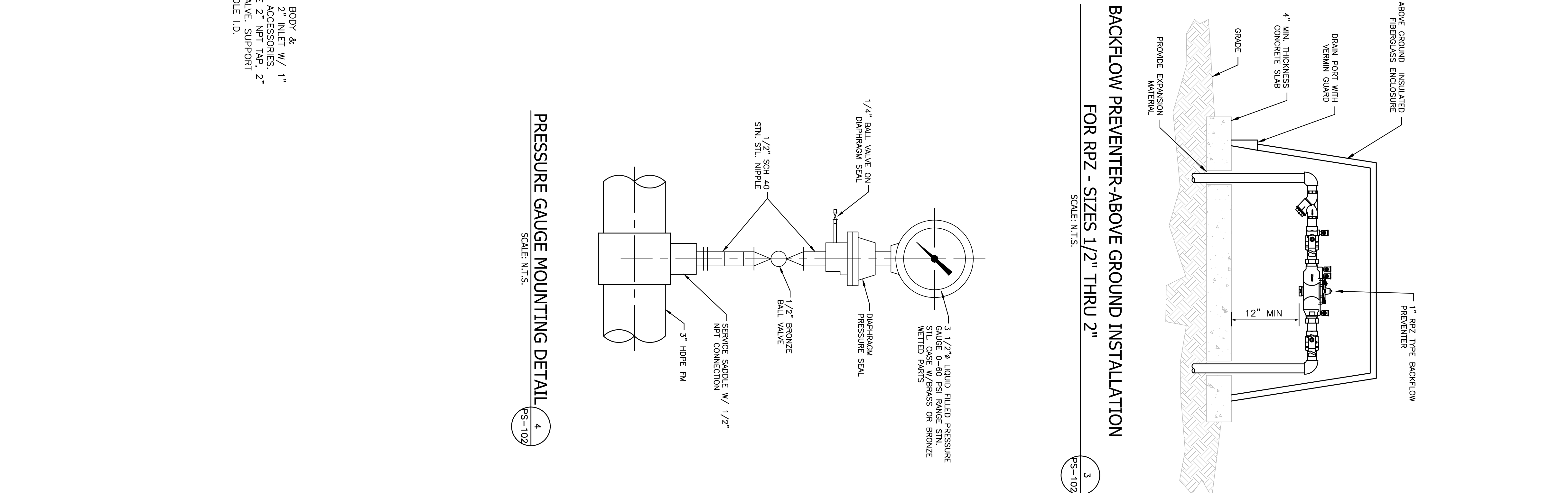
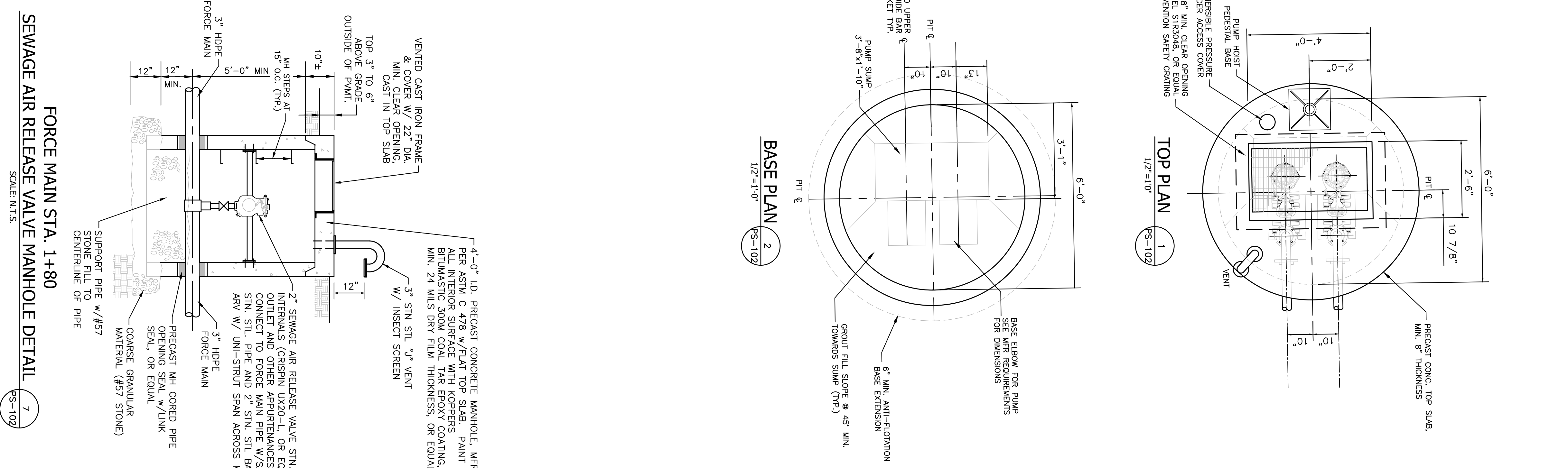
PROJECT FALCON

LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA
4200 FALCON PARKWAY

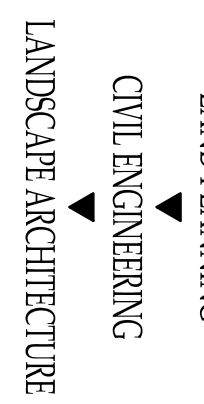
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LAND PLANNING
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CIVIL ENGINEERING
▼
LANDSCAPE ARCHITECTURE

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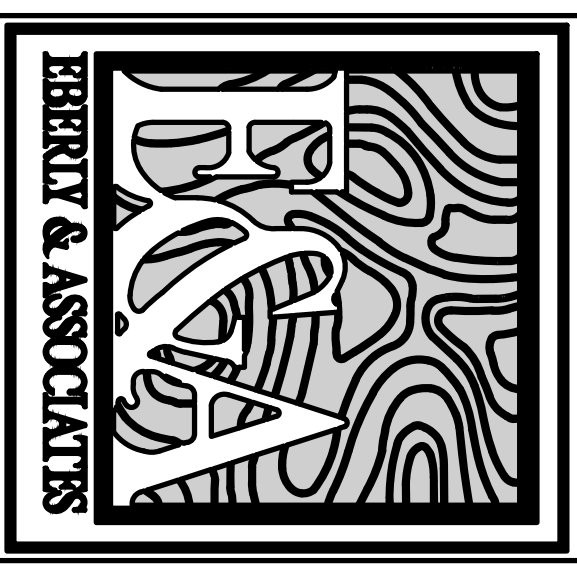


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LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA



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FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider Master Services Agreement with ESG Engineering, Inc.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The City of Flowery Branch has several water, wastewater, stormwater and other projects ongoing and planned currently. With one of the engineers the city currently uses not taking on as many projects, staff identified another firm with expertise in these areas and would like to use ESG Engineering for several projects.

FACTS AND ISSUES:

The master services agreement will be followed by task orders to allocate a set funding amount for professional services. The master services agreement sets the parameters of the contract with ESG Engineering.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the Master Services Agreement with ESG Engineering.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary Master Services Agreement with ESG Engineering, Inc..pdf](#)
- [MasterAgreement- Flowery Branch.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Master Services Agreement with ESG Engineering, Inc.

DATE: July 21, 2022

BUDGET INFORMATION:

ANNUAL- No change

CAPITAL- No change

☒ **RECOMMENDATION**

☐ **POLICY DISCUSSION**

☐ **STATUS REPORT**

☐ **OTHER**

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing a master services agreement with ESG Engineering for water, sewer, stormwater and other engineering.

HISTORY: The City of Flowery Branch has several water, wastewater, stormwater and other projects ongoing and planned currently. With one of the engineers the city currently uses not taking on as many projects, staff identified another firm with expertise in these areas and would like to use ESG Engineering for several projects.

FACTS AND ISSUES: The master services agreement will be followed by task orders to allocate a set funding amount for professional services. The master services agreement sets the parameters of the contract with ESG Engineering.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the master services agreement with ESG Engineering.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

STANDARD AGREEMENT FOR PROFESSIONAL SERVICES

ESG ENGINEERING'S OFFICE	6400 Peake Road, Macon, GA 31210
ESG ENGINEERING'S PROJECT	Master Agreement 2022/2023
PROJECT NAME:	Master Services Agreement for Comprehensive Engineering Services
CLIENT:	City of Flowery Branch
CLIENT'S ADDRESS:	5410 Pine Street, Flowery Branch, GA, 30542

CLIENT requests and authorizes ESG Engineering, Inc. (hereinafter "ESG Engineering") to perform the following Services:

Scope of Services

ESG Engineering, in support of Client, shall provide comprehensive engineering and consulting services on an as-needed basis at the request of Client. Specific services conducted by ESG Engineering shall be authorized through written Task Orders. Each Task Order shall consist of a Scope of Work containing a schedule, deliverables, and budget, in addition to a description of the services to be provided (the 'Services'). The terms and conditions of this Master Services Agreement (the 'Agreement') shall be applicable to each Task Order and incorporated by reference within each Task Order.

Compensation

Compensation by Client to ESG Engineering for each Task Order will be based on either a lump sum amount or a time and expense basis (Rate Table included as Attachment A), depending on the type of work to be performed for each Task Order. The type of compensation will be indicated in each Task Order.

If a Task Order is to be compensated on a time and expense basis, the Task Order shall specify a not-to-exceed amount. ESG Engineering shall incur no time or expense in excess of this amount without the express written approval of the Client.

ESG Engineering shall invoice Client on a monthly basis, with payment due and payable 30 days after receipt.

Other Terms

Each party's designated representative for a particular Scope of Work will be named in each Task Order.

The following documents shall be incorporated by reference to this Agreement following the mutual approval of any Task Order:

- Attachment A- Rate Table; Attachment B – Sample Task Order Scope of Services / Proposal (Initiated upon request of Client); and Attachment C – Schedule of Insurance Coverage.

Services covered by this AGREEMENT will be performed in accordance with the Provisions and applicable terms and conditions of the Task Order in question. This AGREEMENT supersedes all prior agreements and understandings and may only be changed by written amendment executed by both parties.

CLIENT: CITY OF FLOWERY BRANCH

Signature _____

Name (printed) _____

Title _____

Date _____

ESG ENGINEERING, INC.:

Signature  _____

Name (printed) Trey Gavin

Title Senior Vice-President

Date 06/06/2022

PROVISIONS

1. Authorization to Proceed

Execution of this AGREEMENT by CLIENT will be authorization for ESG Engineering to proceed with the performance of Services defined by the issuance of a Task Order, unless otherwise provided for in this AGREEMENT.

2. Per Diem Rates

ESG Engineering's and its affiliated companies' Per Diem Rates, when the basis of compensation, are those hourly or daily rates charged for Services performed in conjunction with a particular Task Order by ESG Engineering employees. If applicable, these rates will be contained in the issued and agreed upon task order.

3. NOT USED

4. Cost Opinions

Any cost opinions or project economic evaluations provided by ESG Engineering will be on a basis of experience and judgment, but, since ESG Engineering has no control over market conditions or bidding procedures, ESG Engineering cannot warrant that bids, ultimate construction cost, or project economics will not vary from these opinions.

5. Standard of Care

The standard of care applicable to ESG Engineering's services will be the degree of skill and diligence normally employed by professional engineers or consultants performing the same or similar services at the time ESG Engineering's services are performed. ESG Engineering will re-perform any services not meeting this standard without additional compensation.

6. Termination

This AGREEMENT may be terminated for convenience on 30 days' written notice or if either party fails substantially to perform through no fault of the other and does not commence correction of such nonperformance within 5 days of written notice and diligently complete the correction thereafter. On termination, ESG

Engineering will be paid for all authorized work performed up to the termination date plus termination expenses, such as, but not limited to, reassignment of personnel, subcontract termination costs, and related closeout costs.

7. Payment to ESG Engineering

Monthly invoices will be issued by ESG Engineering for all Services performed under this AGREEMENT. CLIENT shall pay each invoice within 30 days. Interest at a rate of 1-1/2 percent per month will be charged on all past-due amounts.

In the event of a disputed billing, only that disputed portion will be withheld from payment, and the undisputed portion will be paid. CLIENT will exercise reasonableness in disputing any bill or portion thereof. No interest will accrue on any disputed portion of the billing until mutually resolved.

8. Limitation of Liability

ESG Engineering's liability for CLIENT's damages will, in the aggregate, not exceed the limits of insurance coverage available at the time of signature of this agreement. This Provision takes precedence over any conflicting Provision of this AGREEMENT or any document incorporated into it or referenced by it.

In no event shall ESG Engineering, its affiliated corporations, officers, employees, or any of its subcontractors be liable for any incidental, indirect, special, punitive, economic or consequential damages, including but not limited to loss of revenue or profits, suffered or incurred by CLIENT or any of its agents, including other contractors engaged at the project site, as a result of this Agreement or ESG Engineering's performance or non-performance of services pursuant to this Agreement.

Limitations of liability provided herein will apply whether ESG Engineering's liability arises under breach of contract or warranty; tort, including negligence; strict liability; statutory liability; or any other cause of action, and shall include ESG Engineering's officers, affiliated corporations, employees, and subcontractors.

9. Severability and Survival

If any of the provisions contained in this AGREEMENT are held illegal, invalid or unenforceable, the other provisions shall remain in full effect. Limitations of liability shall survive termination of this AGREEMENT for any cause.

10. No Third Party Beneficiaries

This AGREEMENT gives no rights or benefits to anyone other than CLIENT and ESG Engineering and its third party beneficiaries as provided in Provision 8.

11. Materials and Samples

Any items, substances, materials, or samples removed from a project site for testing, analysis, or other evaluation will be returned to the project site unless agreed to otherwise. CLIENT recognizes and agrees that ESG Engineering is acting as a bailee and at no time assumes title to said items, substances, materials, or samples. CLIENT recognizes that ESG Engineering assumes no risk and/or liability for a waste or hazardous waste site originated by other than ESG Engineering.

12. Assignments

Neither party shall have the power to or will assign any of the duties or rights or any claim arising out of or related to this AGREEMENT, whether arising in tort, contract or otherwise, without the written consent of the other party. Any unauthorized assignment is void and unenforceable.

13. Integration

This AGREEMENT incorporates all previous communications and negotiations and constitutes the entire agreement of the parties. If CLIENT issues a Purchase Order in conjunction with performance of the Services, general or standard terms and conditions on the Purchase Order do not apply to this AGREEMENT.

14. Force Majeure

If performance of the Services is affected by causes beyond ESG Engineering's reasonable control, project schedule and compensation shall be equitably adjusted.

15. Dispute Resolution

The parties will use their best efforts to resolve amicably any dispute, including use of alternative dispute resolution options.

16. Changes

CLIENT may make or approve changes within the general Scope of Services provided by the terms of a particular Task Order. If such changes affect ESG Engineering's cost of or time required for performance of the services, an equitable adjustment will be made through an amendment to the Task Order in question.

17. Opinions of Cost, Financial Considerations, and Schedules

In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for a project, ESG Engineering has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, ESG Engineering makes no warranty that CLIENT's actual project costs, financial aspects, economic feasibility, or schedules will not vary from ESG Engineering's opinions, analyses, projections, or estimates. If CLIENT wishes greater assurance as to any element of Project cost, feasibility, or schedule, CLIENT will employ an independent cost estimator, contractor, or other appropriate advisor.

18. Access to Facilities and Property

CLIENT will make its facilities accessible to ESG Engineering as required for the performance of its services and will provide labor and safety equipment as required by ESG Engineering for such access. CLIENT will perform, at no cost to ESG Engineering, such tests of equipment, machinery, pipelines, and other components of CLIENT's facilities as may be required in connection with ESG Engineering's services.

19. Reuse of Project Documents

All reports, drawings, specifications, documents, and other deliverables of ESG Engineering, whether in hard copy or in electronic form, are instruments of service for the pertinent Task Order, whether the Task Order is completed or not. CLIENT agrees to indemnify ESG Engineering and its officers, employees, subcontractors, and affiliated corporations from all claims, damages, losses, and costs, including, but not limited to, litigation expenses and attorney's fees arising out of or related to the unauthorized reuse, change or alteration of these Task Order documents to the extent allowed under Georgia law.

20. Client-Furnished Data

CLIENT will provide to ESG Engineering all data in CLIENT's possession relating to ESG Engineering's Services. ESG Engineering will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by CLIENT.

2022 Hourly Billing Rates

TO Flowery Branch

FROM: ESG Engineering, Inc.

Hourly Billing Rates for 2022

Staff Title	2022 Hourly Rates
Principal	195
Senior Technologist	180
Senior Project Engineer	165
Project Engineer/Project Manager	144
Senior GIS Analyst	120
Staff Engineer III	117
Staff Engineer II	106
Staff Engineer	95
Engineering Intern	86
CAD Tech I	95
GIS Tech	85
Admin	68
GPS Tech	65
Engineering Intern	55

TASK ORDER AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is by and between ESG Engineering, Inc. (ESG Eng) and _____, by and through its City Council (the "City").

ESG Eng's Address: _____ 6400 Peake Road, Macon Georgia 31210

City's Address: _____

Project Name: _____

Project Location: _____

ESG Project Number: _____

The City and ESG Eng are parties to the "Task Order Agreement for Consultant Services (Master Services Agreement)" dated the _____ day of _____, 2022 (the 'Agreement'). The Scope of Services to be performed under this Task Order shall be performed subject to the terms and conditions of said Agreement.

1 SCOPE OF SERVICES

ESG Eng, in conjunction with sub-consultants, will perform the following Scope of Services:

Task 1- Design Engineering and Permitting

- Provide Complete set of Construction Plans, Technical Specifications, and Bidding Documents for City's use in procuring public bids
- Assist City during bid and contracting process including coordination and attendance at Bid Opening, contract administration and coordination and attendance at a Preconstruction Conference

All work under this task shall be billed lump sum at the price provided in the included table.

Task 2- Construction Administration

- Review and approve all submittals, schedules, and subcontractor lists
- Attend progress meetings and verify construction progress and adherence to approved Plans and Specifications
- Review and approve all payment requests
- Oversee punchlist meeting and provide Certification of Work Complete

All work under this task shall be billed lump sum at the price provided in the included table.

2 COMPENSATION

The City will compensate ESG Eng as set forth below for the tasks described and for the Scope of Services performed by ESG pursuant to the terms provided below and the terms and conditions of the Agreement. In the event of a conflict between the provisions of this Task Order and the terms of the Agreement concerning the issue of compensation, the conflict or ambiguities shall be resolved according to the applicable compensation terms of this Task Order.

Task 1 - Design Engineering including Plans & Specifications utilizing the City's format, bid administration, and contract administration	\$
Task 2 - Construction Administration including monthly progress meetings, verification of construction progress (project inspection once/week on average) and payment request approval, punch list meeting, and engineer's certification of work complete	\$
Total Amount	\$

*Full Time Resident Observation is not included in this task

3 OBLIGATIONS OF THE CITY

In addition to those obligations provided by the terms and conditions of the Agreement, the City shall:

3.1 City-Furnished Data

The City will provide to ESG all data in the City's possession relating to ESG's performance of the Scope of Services regarding the PROJECT. ESG will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the City.

3.2 Access to Facilities and Property

The City will make its facilities accessible to ESG as required for ESG's performance of the Scope of Services and will provide labor and safety equipment as required by ESG for such access. The City will perform, at no cost to ESG, such tests of equipment, machinery, pipelines, and other components of the City's facilities as may be required in connection with ESG's services.

3.3 Operations Assistance and Services

The City authorizes ESG to operate, modify, inspect and otherwise physically manipulate equipment, furnishings, property and other elements associated with the performance of the Scope of Services. The City authorizes ESG to take such actions in these respects as ESG considers necessary to meet the objectives of the Scope of Services.

3.4 Advertisements, Permits, and Access

The City will obtain, arrange, and pay for all advertisements for bids; permits and licenses required by local, state, or federal authorities; and land, easements, rights-of-way, and access necessary for ESG's services.

3.5 Timely Review

The City will examine ESG's studies, reports, sketches, drawings, specifications, proposals, and other documents; obtain advice of an attorney, insurance counselor, accountant, auditor, bond and financial advisors, and other consultants as the City deems appropriate; and render in writing decisions required by the City in a timely manner.

3.6 Prompt Notice

The City will give prompt written notice to ESG whenever the City observes or becomes aware of any development that affects the scope or timing of ESG's performance, or of any defect in the work of ESG.

3.7 Changes

The City may request changes within the general Scope of Services in this Task Order. If such changes affect ESG's cost of or time required for performance of the services, an equitable adjustment will be made through an amendment to this Task Order. All requested changes will be made in writing and are subject to acceptance by ESG.

4 GENERAL LEGAL PROVISIONS

4.1 Authorization to Proceed

Execution of this Task Order by the City will be authorization for ESG to proceed with the work, unless otherwise provided for in this Task Order.

4.2 Force Majeure

ESG is not responsible for damages or delay in performance caused by acts of God, strikes, lockouts, accidents, or other events beyond the control of ESG. In any such event, ESG's contract price and schedule shall be equitably adjusted.

4.3 No Conflict of Interest for Future Work

The services performed by ESG under this Task Order do not preclude ESG from proposing on or providing such services to the City in the future. Information and knowledge gained by ESG in providing services under this contract shall not constitute a conflict of interest in proposing on or providing full contract operations, full contract maintenance, or full contract utility management.

4.4 Third Party Beneficiaries and Scope of Services

This Task Order gives no rights or benefits to anyone other than the City and ESG and has no third party beneficiaries. The services to be performed for the City by ESG are defined solely by this Task Order and the terms and conditions of the Agreement.

4.5 Materials and Samples

Any items, substances, materials, or samples removed from the project site for testing, analysis, or other evaluation will be returned to the project site within 60 days of close-out unless agreed to otherwise. Exceptions to this clause are items subjected to destructive testing or samples with nominal intrinsic value, such as samples of liquid, solid or gaseous materials that are non-hazardous. The City recognizes and agrees that ESG is acting as a Bailee and at no time assumes title to said items, substances, materials, or samples.

4.6 Assignments

Neither party shall have the power to or will assign any of the duties or rights or any claim arising out of or related to this Task Order, whether arising in tort, contract or otherwise, without the written consent of the other party. Any unauthorized assignment is void and unenforceable. These conditions and the entire Task Order are binding on the successors and assigns of the parties hereto.

5 ATTACHMENTS, SCHEDULES, AND SIGNATURES

This Task Order, including its attachments and schedules, and the terms and conditions of the Agreement constitutes the entire agreement between the parties, supersedes all prior written or oral understandings, and may only be changed by a written amendment executed by both parties.

IN WITNESS WHEREOF, the parties execute below:

Approved for _____ (Print and sign name)

By _____

Name _____

Title _____

Date _____

Approved for ESG Engineering (Print and sign name)

By _____

Name _____

Title _____

Date _____

ACORD™

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

5/25/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Marsh & McLennan Agency LLC 200 Brookstone Centre Pkwy Suite 118 Columbus, GA 31904	CONTACT NAME: Rebecca Hightower PHONE (A/C, No, Ext): - FAX (A/C, No): E-MAIL ADDRESS: Rebecca.Hightower@MarshMMA.com														
INSURED ESG Engineering, Inc. 6400 Peake Road Macon, GA 31210	<table border="1"> <thead> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A : Hartford Underwriters Insurance Co.</td> <td>30104</td> </tr> <tr> <td>INSURER B : Sentinel Insurance Co., LTD</td> <td>11000</td> </tr> <tr> <td>INSURER C : Hartford Accident & Indemnity</td> <td>22357</td> </tr> <tr> <td>INSURER D :</td> <td></td> </tr> <tr> <td>INSURER E :</td> <td></td> </tr> <tr> <td>INSURER F :</td> <td></td> </tr> </tbody> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A : Hartford Underwriters Insurance Co.	30104	INSURER B : Sentinel Insurance Co., LTD	11000	INSURER C : Hartford Accident & Indemnity	22357	INSURER D :		INSURER E :		INSURER F :	
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INSURER D :															
INSURER E :															
INSURER F :															

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC OTHER:			20SBAAN6EMX	10/15/2021	10/15/2022	EACH OCCURRENCE \$2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$2,000,000 GENERAL AGGREGATE \$4,000,000 PRODUCTS - COMP/OP AGG \$4,000,000 \$
C	AUTOMOBILE LIABILITY ☒ ANY AUTO OWNED AUTOS ONLY ☒ HIRED AUTOS ONLY ☐ SCHEDULED AUTOS NON-OWNED AUTOS ONLY			20UECEI0363SA	10/15/2021	10/15/2022	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	☒ UMBRELLA LIAB ☒ EXCESS LIAB DED RETENTION \$			20SBAAN6EMX	10/15/2021	10/15/2022	EACH OCCURRENCE \$4,000,000 AGGREGATE \$4,000,000 \$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☒ Y / ☒ N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	20WECAN6FSR	10/15/2021	10/15/2022	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

(AU) Additional insured per form HA 99 16 03 12- Commercial Automobile Broad Form

(GL) Blanket Additional Insured per form SL 30 32 06 21

CERTIFICATE HOLDER

CANCELLATION

City of Flowery Branch PO Box 757 Flowery Branch, GA 30542	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>PETER J. KRAUSE</i>
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FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider Approval of Task Order for Professional Services for ESG Engineering, Inc.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The City of Flowery Branch has several water, wastewater, stormwater and other projects ongoing and planned currently. With one of the engineers the city currently uses not taking on as many projects, staff identified another firm with expertise in these areas and would like to use ESG Engineering for several projects.

FACTS AND ISSUES:

The master services agreement is in place, and this is the first task order which sets a funding amount for professional services to be used as the city needs. The funding amount requested is \$50,000 and is already included in the operating budget. The projects include but are not limited to: review of wastewater tie-ins as developers request, working with developers on easements, routes, sizes of pipes, force mains, water lines, bidding projects, working with EPD and GEFA, council presentations, etc.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$50,000 - already budgeted in the Operating Budget

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the attached task order with ESG Engineering for an amount not to exceed \$50,000.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary Task Order for Professional Services for ESG Engineering, Inc..pdf](#)
- [ESG Engineering Task Order Agreement for Professional Services.pdf](#)

**FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY**

SUBJECT: Task Order for Professional Services for ESG Engineering, Inc.

DATE: July 21, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- \$50,000 (budgeted)

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing a task order with ESG Engineering for water, sewer, stormwater and other engineering.

HISTORY: The City of Flowery Branch has several water, wastewater, stormwater and other projects ongoing and planned currently. With one of the engineers the city currently uses not taking on as many projects, staff identified another firm with expertise in these areas and would like to use ESG Engineering for several projects.

FACTS AND ISSUES: The master services agreement is in place and this is the first task order which sets a funding amount for professional services to be used as the city needs. The funding amount requested is \$50,000 and is already included in the operating budget. The projects include but are not limited to: review of wastewater tie-ins as developers request, working with developers on easements, routes, sizes of pipes, force mains, water lines, bidding projects, working with EPD and GEFA, council presentations, etc.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the attached task order with ESG Engineering for an amount not to exceed \$50,000.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

TASK ORDER AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is by and between ESG Engineering, Inc. (ESG) and Flowery Branch, Georgia, by and through its City Council (the "City").

ESG's Address: _____ 6400 Peake Road, Macon Georgia 31210 _____

City's Address: _____ 5410 Pine Street, Flowery Branch, GA 30542 _____

Project Name: _____ General Services and Consulting- Water, Wastewater, Storm Water _____

Project Location: _____ Flowery Branch, GA _____

ESG Project Number: _____ N/A _____

The City and ESG are parties to the "Task Order Agreement for Consultant Services (Master Services Agreement)" dated the ____ day of _____, 2022 (the 'Agreement'). The Scope of Services to be performed under this Task Order shall be performed subject to the terms and conditions of said Agreement.

1 SCOPE OF SERVICES

ESG Engineering will perform the following General Scope of Services:

Provide Consulting and Design Engineering Services for Drinking Water, Wastewater, and Storm Water Systems for the city as requested. Specific tasks performed under this scope of work shall be assigned by the City Manager and completed in a timely fashion by the consultant. There is no requirement for the city to utilize the budgeted amount in any given year and the city may extend beyond the amount at their pleasure in any given year.

2 COMPENSATION

The City will compensate ESG Engineering for any assigned or requested tasks on an hourly basis adhering to the rate table established in the Master Services Agreement. ESG will work on assigned or requested tasks on an hourly basis with an agreed upon **Annual Budget of \$50,000**.

Services performed by ESG pursuant to the terms provided below and the terms and conditions of the Master Services Agreement. In the event of a conflict between the provisions of this Task Order and the terms of the Agreement concerning the issue of compensation, the conflict or ambiguities shall be resolved according to the applicable compensation terms of this Task Order.

3 OBLIGATIONS OF THE CITY

In addition to those obligations provided by the terms and conditions of the Agreement, the City shall:

3.1 City-Furnished Data

The city will provide to ESG all data in the City's possession relating to ESG's performance of the Scope of Services regarding the PROJECT. ESG will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the City.

3.2 Access to Facilities and Property

The city will make its facilities accessible to ESG as required for ESG's performance of the Scope of Services and will provide labor and safety equipment as required by ESG for such access. The city will perform, at no cost to ESG, such tests of equipment, machinery, pipelines, and other components of the City's facilities as may be required in connection with ESG's services.

3.3 Operations Assistance and Services

The City authorizes ESG to operate, modify, inspect and otherwise physically manipulate equipment, furnishings, property and other elements associated with the performance of the Scope of Services. The city authorizes ESG to take such actions in these respects as ESG considers necessary to meet the objectives of the Scope of Services.

3.4 Advertisements, Permits, and Access

The City will obtain, arrange, and pay for all advertisements for bids; permits and licenses required by local, state, or federal authorities; and land, easements, rights-of-way, and access necessary for ESG's services.

3.5 Timely Review

The City will examine ESG's studies, reports, sketches, drawings, specifications, proposals, and other documents; obtain advice of an attorney, insurance counselor, accountant, auditor, bond and financial advisors, and other consultants as the City deems appropriate; and render in writing decisions required by the City in a timely manner.

3.6 Prompt Notice

The city will give prompt written notice to ESG whenever the city observes or becomes aware of any development that affects the scope or timing of ESG's performance, or of any defect in the work of ESG.

3.7 Changes

The city may request changes within the general Scope of Services in this Task Order. If such changes affect ESG's cost of or time required for performance of the services, an equitable adjustment will be made through an amendment to this Task Order. All requested changes will be made in writing and are subject to acceptance by ESG.

4 GENERAL LEGAL PROVISIONS

4.1 Authorization to Proceed

Execution of this Task Order by the City will be authorization for ESG Engineering to proceed with the work, unless otherwise provided for in this Task Order.

4.2 Force Majeure

ESG Engineering is not responsible for damages or delay in performance caused by acts of God, strikes, lockouts, accidents, or other events beyond the control of ESG. In any such event, ESG's contract price and schedule shall be equitably adjusted.

4.3 No Conflict of Interest for Future Work

The services performed by ESG Engineering under this Task Order do not preclude ESG from proposing on or providing such services to the city in the future. Information and knowledge gained by ESG in providing services under this contract shall not constitute a conflict of interest in proposing on or providing additional engineering services, contract operations, contract maintenance, or contract utility management.

4.4 Third Party Beneficiaries and Scope of Services

This Task Order gives no rights or benefits to anyone other than the City and ESG Engineering and has no third-party beneficiaries. The services to be performed for the City by ESG Engineering are defined solely by this Task Order and the terms and conditions of the Agreement.

4.5 Materials and Samples

Any items, substances, materials, or samples removed from the project site for testing, analysis, or other evaluation will be returned to the project site within 60 days of close-out unless agreed to otherwise. Exceptions to this clause are items subjected to destructive testing or samples with nominal intrinsic value, such as samples of liquid, solid or gaseous materials that are non-hazardous. The city recognizes and agrees that ESG Engineering is acting as a Bailee and at no time assumes title to said items, substances, materials, or samples.

4.6 Assignments

Neither party shall have the power to or will assign any of the duties or rights or any claim arising out of or related to this Task Order, whether arising in tort, contract or otherwise, without the written consent of the other party. Any unauthorized assignment is void and unenforceable. These conditions and the entire Task Order are binding on the successors and assigns of the parties hereto.

5 ATTACHMENTS, SCHEDULES, AND SIGNATURES

This Task Order, including its attachments and schedules, and the terms and conditions of the Agreement constitutes the entire agreement between the parties, supersedes all prior written or oral understandings, and may only be changed by a written amendment executed by both parties.

IN WITNESS WHEREOF, the parties execute below:

Approved for Flowery Branch (Print and sign name)

By _____

Name _____

Title _____

Date _____

Approved for ESG (Print and sign name)

By _____

Name Arthur (Trey) Gavin

Title Senior VP and Partner

Date 8/17/18



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Approval of Change Order for Martin Elementary School Wastewater Line Rehabilitation Project to the Dickerson Group, Inc.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The City of Flowery Branch maintains its wastewater lines regularly. At the council meeting on June 16, 2022, an item (change order) was brought forward for the Martin Elementary wastewater line rehabilitation project with an amount not to exceed \$137,022.50. This was due to the discovery that the lines were in worse condition when anticipated when the work began. The contractor gave us estimates based on work they were anticipating with them not knowing yet whether there was a casing under Martin Road. There was not casing so a jack and bore under Martin Road with 16" casing was necessary.

FACTS AND ISSUES:

The contractor, The Dickerson Group, Inc., sent the change order and it is for \$143,163. This is higher than the original "not to exceed" amount because there were two manholes planned at 10ft deep and they are actually at 19-20ft deep. This change order is \$6,140.50 more than previously authorized by council on June 16, 2022. Funding for the project is available in SPLOST VII.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$143,163 provided by SPLOST VII

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the change order attached for the Dickerson Group, Inc. for the Martin Elementary School wastewater line rehabilitation in the amount of \$143,163 to be provided by SPLOST VII.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary Approval of Change Order for Martin ES Wastewater Line Rehabilitation Project to the Dickerson Group, Inc..pdf](#)
- [20220628_062529.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Approval of Change Order for Martin Elementary School wastewater line rehabilitation project to the Dickerson Group, Inc..

DATE: July 21, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- \$143,163 (SPLOST VII)

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing a change order with Dickerson Group for the Martin Elementary School wastewater line rehabilitation project.

HISTORY: The City of Flowery Branch maintains its wastewater lines regularly. At the council meeting on June 16, 2022, an item (change order) was brought forward for the Martin Elementary wastewater line rehabilitation project with an amount not to exceed \$137,022.50. This was due to the discovery that the lines were in worse condition when anticipated when the work began. The contractor gave us estimates based on work they were anticipating with them not knowing yet whether there was a casing under Martin Road. There was not casing so a jack and bore under Martin Road with 16" casing was necessary.

FACTS AND ISSUES: The contractor, The Dickerson Group, Inc., sent the change order and it is for \$143,163. This is higher than the original "not to exceed" amount because there were two manholes planned at 10ft deep and they are actually at 19-20ft deep. This change order is \$6,140.50 more than previously authorized by council on June 16, 2022. Funding for the project is available in SPLOST VII.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the change order attached for the Dickerson Group, Inc. for the Martin Elementary School wastewater line rehabilitation in the amount of \$143,163 to be provided by SPLOST VII.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

The Dickerson Group Inc.
Change Order Request
Martin Elem.

Phase 2

1	Contractor field measure manholes & submit for fabrication	EA	3	\$ 1,500.00	\$ 4,500.00
2	8" PVC SDR 35 - 12'-15 deep	LF	436	\$ 115.00	\$ 50,140.00
3	Provide and install complete manhole systems based on 10 vf per manhole	EA	1	\$ 5,250.00	\$ 5,250.00
4	New Manhole greater than 15ft	EA	3	\$ 7,500.00	\$ 22,500.00
5	Additional VF for MH #5 & #4 (19 VF Deep)	EA	2	\$ 5,250.00	\$ 10,500.00
6	Driveway Removal/Replacement	SY	100	\$ 125.00	\$ 12,500.00
7	SOD	SY	444	\$ 17.00	\$ 7,548.00
8	Minor Clearing and 2 tree removals incl stumps	LS	1	\$ 6,000.00	\$ 6,000.00
9	Matting Installation	SY	150	\$ 7.50	\$ 1,125.00
10	Throat and top replacement	LS	1	\$ 4,500.00	\$ 4,500.00
11	Fence Removal and Replacement	LF	80	\$ 20.00	\$ 1,600.00
12	Traffic Control	LS	1	\$ 5,000.00	\$ 5,000.00
13	Testing	LS	1	\$ 3,000.00	\$ 3,000.00
14	Casing Pipe removal and reinsertion	LF	60	\$ 125.00	\$ 7,500.00
15	Striping	LS	1	\$ 1,500.00	\$ 1,500.00
				\$ 143,163.00	



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: First Amendment to the Development Agreement with Flowery Branch Apartments Owner, LLC for Improvements to the City's Sewer System.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Although Flowery Branch Apartments Owner, LLC has secured sewer capacity from the city, the necessary land development permits, an easement from the Board of Education to connect, and has made an approved connection to the city sewerage system, the City reserved the right to require additional items, should they be necessary, within 90 days of certification of completeness of the "Connection Project". This amendment to the original development agreement memorializes additional requests associated with the "Connection Project" by the city to the developer.

FACTS AND ISSUES:

After Flowery Branch Apartments Owner, LLC obtained the necessary sewer capacity, development permits and easements to connect to the city's sewer system via C.W. Davis lift station, it was discovered that the manhole to which it was to connect discharges into a gravity flow pipe entering the pump station wet well near the bottom. Because of this low entry point, it was thought that the capacity of the lift station is not at its maximum and adding additional flow could create issues for the city's system within the subject sewer shed unless improvements are made. The city's consulting engineer completed a sewer evaluation concerning said improvements and determined that raising two manholes adjacent to the existing lift station would provide the necessary capacity needed to accommodate flows from the new apartments. The attached amendment to the development agreement memorializes that the manholes will be raised by Flowery Branch Apartments Owner, LLC under the direction of the city engineer and other city staff to provide improvement and the needed capacity.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the amendment to the development agreement with Flowery Branch Apartments, LLC for improvements to the city's sewer system.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary - Amendment to Development Agreement with Flowery Branch Apartments Owner, LLC.pdf](#)
- [First Amendment - Sewer Development Agreement.pdf](#)
- [Raised Manholes Exhibit.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: First Amendment to the Development agreement with Flowery Branch Apartments Owner, LLC for improvements to the city's sewer system.

DATE: July 21, 2022

BUDGET INFORMATION:

ANNUAL- No change
CAPITAL- No change

(X) RECOMMENDATION

() POLICY DISCUSSION

() STATUS REPORT

() OTHER

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing an amendment to the development agreement with Flowery Branch Apartments Owner, LLC for improvements to the city's sewer system, allowing them to access the sewer system, and provide for future improvements to the sewer system.

HISTORY: Although Flowery Branch Apartments Owner, LLC has secured sewer capacity from the city, the necessary land development permits, an easement from the Board of Education to connect, and has made an approved connection to the city sewerage system, the City reserved the right to require additional items, should they be necessary, within 90 days of certification of completeness of the "Connection Project". This amendment to the original development agreement memorializes additional requests associated with the "Connection Project" by the city to the developer.

FACTS AND ISSUES: After Flowery Branch Apartments Owner, LLC obtained the necessary sewer capacity, development permits and easements to connect to the city's sewer system via C.W. Davis lift station, it was discovered that the manhole to which it was to connect discharges into a gravity flow pipe entering the pump station wet well near the bottom. Because of this low entry point, it was thought that the capacity of the lift station is not at its maximum and adding additional flow could create issues for the city's system within the subject sewer shed unless improvements are made. The city's consulting engineer completed a sewer evaluation concerning said improvements and determined that raising two manholes adjacent to the existing lift station would provide the necessary capacity needed to accommodate flows from the new apartments. The attached amendment to the development agreement memorializes that the manholes will be raised by Flowery Branch Apartments Owner, LLC under the direction of the city engineer and other city staff to provide improvement and the needed capacity.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the amendment to the development agreement with Flowery Branch Apartments, LLC for improvements to the city's sewer system.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

Cross Reference: DB 9087 P 613 – 656

**UPON RECORDING RETURN TO:
Troutman Pepper Hamilton Sanders, LLP
600 Peachtree Street, N.E.
Suite 3000
Atlanta, Georgia 30308
Attn: David C. Kirk**

STATE OF GEORGIA

COUNTY OF HALL

**FIRST AMENDMENT TO THE AGREEMENT
BY AND BETWEEN FLOWERY BRANCH APARTMENTS OWNER, LLC
AND THE CITY OF FLOWERY BRANCH, GEORGIA
FOR ACCESS TO AND MAINTENANCE OF THE SANITARY SEWER SYSTEM**

THIS FIRST AMENDMENT TO THE AGREEMENT (AMENDMENT), is made and entered into effective the ____ day of June 2022, by and between Flowery Branch Apartments Owners, LLC, a Delaware limited liability company, located at 8210 Creedmoor Road, Suite 103, Raleigh, North Carolina 27613, (“DEVELOPER”) and the City of Flowery Branch, Georgia, a Georgia municipal corporation, located at 5410 Pine Street, Flowery Branch, Georgia 30542 (“CITY”).

WHEREAS, DEVELOPER and CITY entered into that certain agreement dated March 22, 2022, 2015 (“ORIGINAL AGREEMENT”) for access to and maintenance of the sanitary sewer system; and

WHEREAS, DEVELOPER and CITY desire to amend the ORIGINAL AGREEMENT, on and subject to the terms and conditions set forth herein.

NOW, THEREFORE, DEVELOPER and CITY agree to amend the ORIGINAL AGREEMENT as follows:

1. Recitals. Each of the foregoing recitals and representations in this Amendment form a material part of this AMENDMENT and are incorporated herein by this reference, and such recitals and representations and the ORIGINAL AGREEMENT are hereby ratified.
2. Paragraph XI. Paragraph XI of the ORIGINAL AGREEMENT is deleted in its entirety and replaced by the following:

“XI. Within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY’s sewer system as described in Paragraph VI of this AGREEMENT, the CITY shall have the right to direct DEVELOPER in writing to install ten (10) foot extensions to raise the height, at DEVELOPER’S expense, of the two manholes shown within the red box on Exhibit E, which is attached hereto and incorporated by reference herein. Upon receipt of such written direction from the CITY, DEVELOPER shall have an additional ninety (90) days to construct/install the manhole extensions, at which time DEVELOPER shall be relieved of any obligations contained in Paragraphs XI and X of this AGREEMENT. Should CITY not exercise its right under this Paragraph XI within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY’s sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER shall have no obligation to raise said manholes.”

EXCEPT AS HEREIN PROVIDED, all other terms and conditions of the ORIGINAL AGREEMENT shall remain the same and the parties hereto do hereby ratify the ORIGINAL AGREEMENT.

IN WITNESS WHEREOF, DEVELOPER and CITY have carefully read and reviewed this AMENDMENT and each term and provision contained herein, and by the execution of this AMENDMENT shows their informed and voluntary consent thereto.

THIS _____ DAY OF JUNE, 2022.

FLOWERY BANCH APARTMENTS OWNER, LLC,
by FLOWERY BRANCH VENTURE, LLP, a
Delaware limited liability partnership and sole manager
of FLOWERY BRANCH APARTMENTS OWNER,
LLC

By: Patrick J. Kassin
Title: _____

Sworn to and subscribed before me
this _____ day of June, 2022.

NOTARY PUBLIC

My commission expires: _____

Signatures Continued Next Page

CITY OF FLOWERY BRANCH, GEORGIA

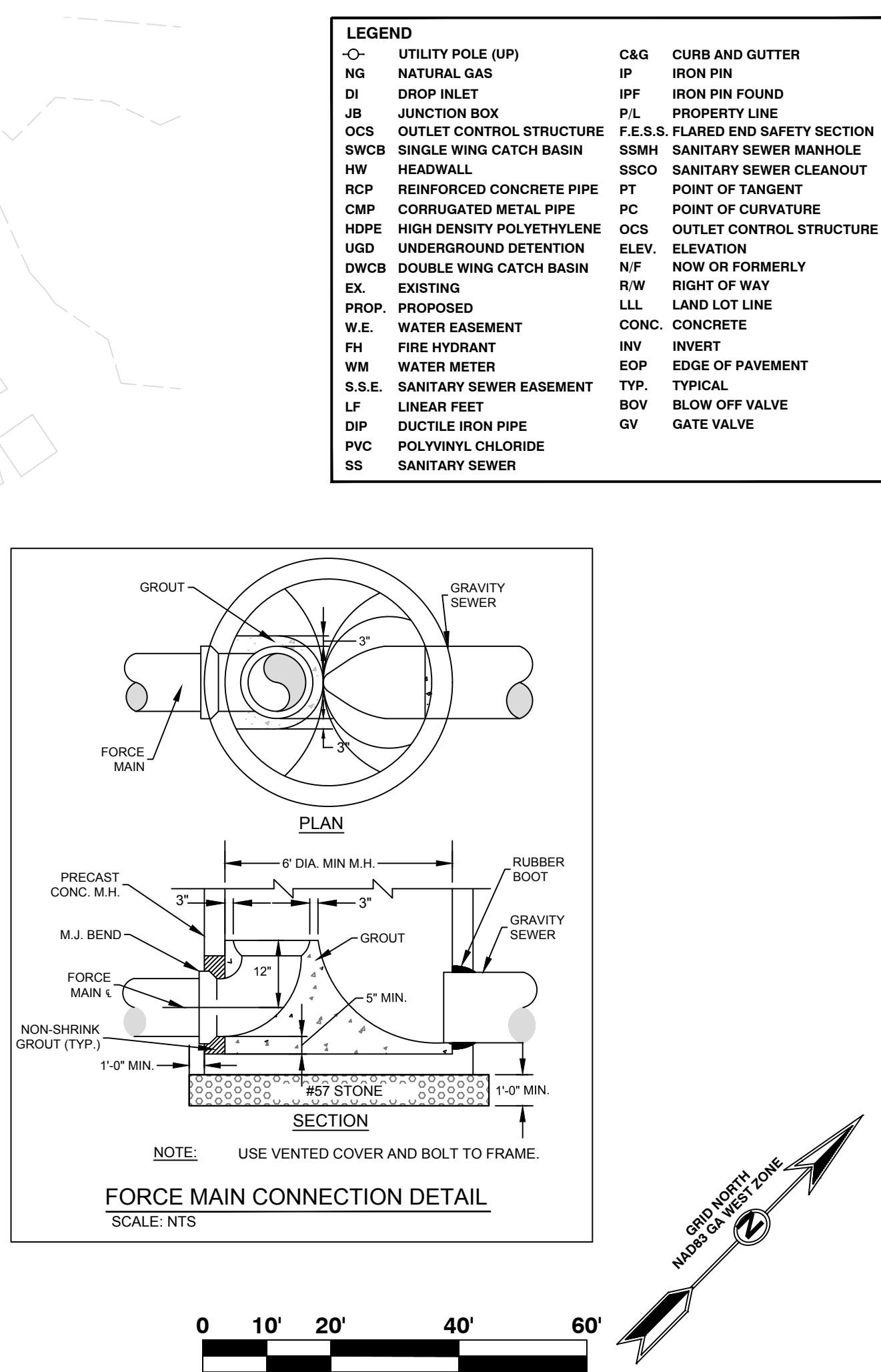
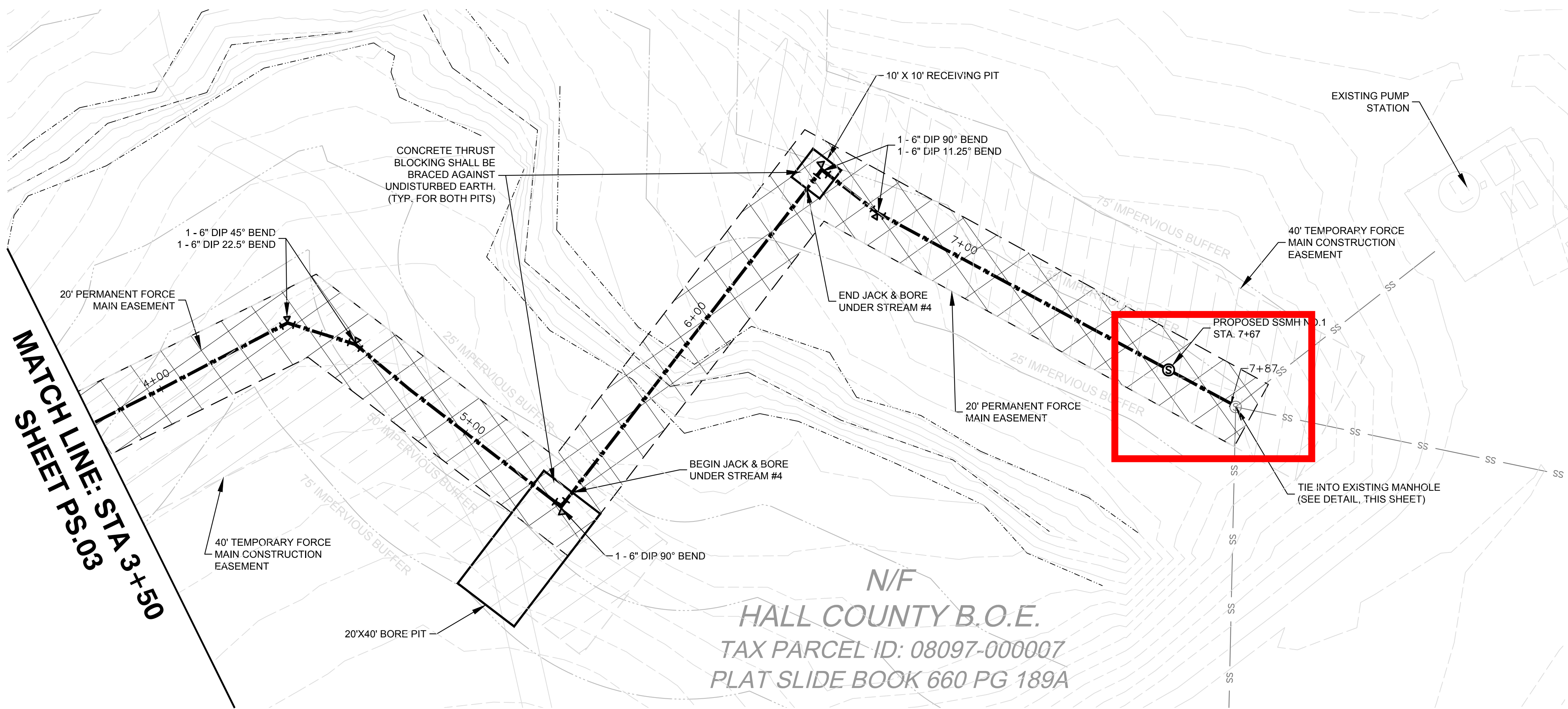
By: Edward R. Asbridge, Mayor

ATTEST:

Shelia Cooper, City Clerk

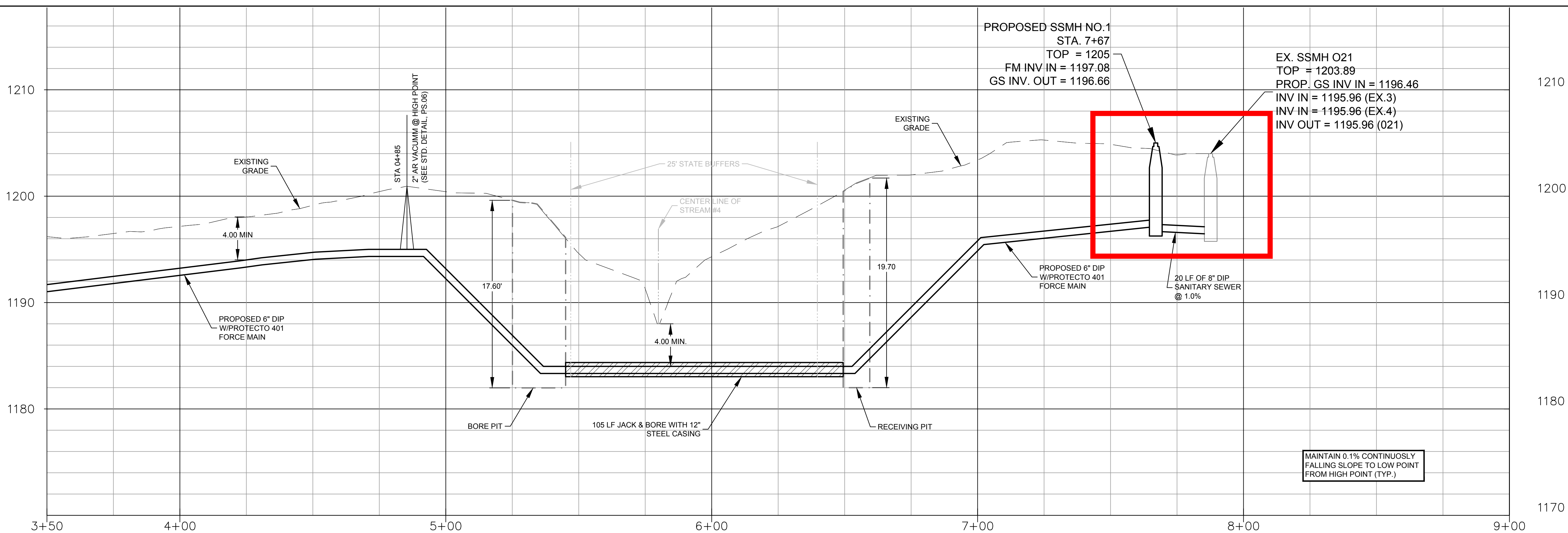
EXHIBIT E

THESE DRAWINGS ARE PROTECTED BY FEDERAL COPYRIGHT PROTECTION. UNAUTHORIZED USE OF THESE DRAWINGS, INCLUDING ANY REPRODUCTION OR COPY OF IT, WHETHER IN WHOLE OR IN PART, MAY RESULT IN AN INFRINGEMENT ACTION.
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PLAN VIEW

Scale: 1" = 20'



PROFILE

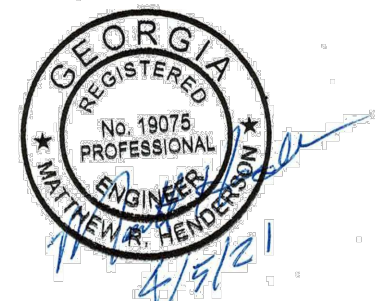
Horizontal Scale: 1" = 20'

Vertical Scale: 1" = 10'

IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FUTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



HENDERSON ENGINEERING
147 TIMBER OAK LANE
DAHLONEGA, GEORGIA 30533
T: 706.864.7252
M: 770.401.6197



REVISION	DATE	DESCRIPTION
1	04-05-21	PERMITTING SET
	04-26-21	BID READY SET

FORCE MAIN PLAN & PROFILE
HOG MOUNTAIN PUMP STATION
& FORCE MAIN
CITY OF FLOWERY BRANCH
HALL COUNTY, GEORGIA

DRAWN BY:	Ach
DESIGNED BY:	MRH
DATE:	04-05-21
CHECKED BY:	MRH

SHEET NO.

PS.04

PROJECT NO.

HE2021-16



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider Approving the Folksong Escrow Agreement

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Woodfield has completed all of its obligatory processes required by the City of Flowery Branch concerning the apartment complex. Part of the process was to deposit \$150,000 into an escrow account.

FACTS AND ISSUES:

Woodfield's buyer, Folksong's title company requires this executed document as a part of the sale and escrowed funds.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the Folksong Escrow Agreement.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Folksong Escrow Agreement.pdf](#)
- [Executive Summary - Escrow Agreement Folksong-Woodfield.pdf](#)



First American Title Ins. Co.
1380 17th St., 500
Denver, CO 80202

ESCROW AGREEMENT

File # NCS-1123415-CO

THIS ESCROW AGREEMENT (this “Agreement”) is made this ____ day of July, 2022 (the “Effective Date”) by and among First American Title Insurance Company (“Escrow Agent”), City of Flowery Branch, Georgia, a Georgia municipal corporation (the “City”), and Flowery Branch Apartments Owner, LLC, a Delaware limited liability company (“Developer”).

RECITALS:

A. WHEREAS, the City and Developer entered into that certain Agreement dated March 22, 2022, recorded in Deed Book 9087, Pages 613-656 of the Hall County, Georgia records (the “Original Sewer Agreement”), as amended that certain First Amendment to the Agreement dated and recorded on or about the date hereof (the “First Amendment”, and together with the Original Sewer Agreement, the “Sewer Agreement”).

B. WHEREAS, pursuant to Section VIII of the Original Sewer Agreement, the City and Developer have agreed that Developer will deposit an amount equal to One Hundred Fifty Thousand and 00/100 Dollars \$150,000.00 into escrow to be disbursed to the City in accordance with the terms hereof (the “Escrowed Funds”).

C. WHEREAS, Developer and the City desire to appoint Escrow Agent as the escrow agent pursuant to this Agreement, and Escrow Agent is willing to act as the escrow agent hereunder.

NOW THEREFORE, in consideration of the covenants and agreements contained in this Agreement, and intending to be legally bound, the parties hereto agree as follows:

1. Escrow Agent is authorized to hold the Escrowed Funds in a segregated deposit account. The segregated deposit account shall not be an interest-bearing deposit account.

2. Pursuant to Section XIV of the Original Sewer Agreement, within ten (10) business days of the issuance of the final certificate of occupancy for the DEVELOPMENT (as such term is defined in the Original Sewer Agreement), Developer will direct Escrow Agent to disburse the Escrowed Funds to the City. Notwithstanding the foregoing, City and the Developer may direct Escrow Agent to disburse the Escrowed Funds in accordance with instructions jointly executed by both City and Developer, in which event, Escrow Agent shall disburse the Escrowed Funds in accordance with such instructions. Upon Escrow Agent’s disbursement of the Escrowed Funds in accordance with this Agreement, Escrow Agent shall be relieved of any further responsibility or liability in connection with this Agreement or the Escrowed Funds, and this Agreement shall terminate and be of no further force and effect.

3. Developer agrees to pay Escrow Agent any and all fees incurred pursuant to this Agreement or with respect to the administration of the Escrowed Funds.

4. All notices, demands, requests, consents, approvals and other communications (each a "Notice," collectively "Notices") required or permitted to be given under this Agreement, or which are to be given with respect to this Agreement, shall be in writing and shall be (i) personally delivered, (ii) delivered by United States Mail, postage prepaid, registered or certified mail, return receipt requested, or (iii) delivered by reputable overnight delivery service with proof of delivery, addressed to the party as designated below, provided that in EACH CASE, a concurrent copy of such notice shall be sent by electronic mail to the addresses as follows:

If intended to Developer, to:

c/o Woodfield Investment Company, LLC
Attn: Patrick Kassin
8210 Creedmoor Road
Suite 102
Raleigh, North Carolina 27613
Email: patrick@woodfielddevelopment.net

and

c/o Woodfield Investment Company, LLC
536 Ellsworth Road
Charlotte, North Carolina 28211
Attn: David Jones
Email: djones@woodfielddevelopment.net

With a copy to:

Troutman Pepper Hamilton Sanders LLP
301 South College Street, Suite 3400
Charlotte, North Carolina 28202
Attn: Stephanie Greer Fulcher, Esq.
Email: stephanie.greerfulcher@troutman.com

If intended to the City, to:

City Manager
City of Flowery Branch
Attn: Tonya Parrish
5410 Pine Street
Flowery Branch, Georgia 30542
Email: tonya@flowerybranchga.org

With a copy to:

E. Ronald Bennett, Jr., Esq.
Carothers & Mitchell, LLC
1809 Buford Highway
Buford, Georgia 30518

Email: ron.bennett@carmitch.com

If intended to Escrow Agent:

First American Title Ins. Co.
Attn: Seth Holley
1380 17th Street, Suite 500
Denver, CO 80202
Phone: (303) 876-1112
Email: seholley@firstam.com

5. Developer and, to the extent allowed by applicable law, the City, agree to hold Escrow Agent harmless, from and against any and all liabilities, losses, damages, expenses and charges, including but not limited to, attorney's fees and expenses of litigation, including those necessary to enforce this indemnification paragraph, which may be sustained or incurred by Escrow Agent and its agents under, or arising directly or indirectly out of such any claim, action, proceeding, or judgment arising from Escrowed Funds. In the event of a dispute between the parties to this Agreement, Escrow Agent shall be permitted in its sole discretion: (a) not to act unless pursuant to an order of a court, or (b) to file a complaint in interpleader and deposit the Escrowed Funds with a court of competent jurisdiction, less all out-of-pocket fees and expenses incurred by Escrow Agent, including attorneys' fees. Upon so acting under 5(a) or (b), Escrow Agent shall be released and forever discharged of all liability under the terms of this Agreement or with respect to the Escrowed Funds.

6. Escrow Agent shall not be personally liable for any act it may do or omit to do hereunder as such agent, while acting in good faith and in the exercise of its own best judgment, and any act done or omitted by it pursuant to the advice of its own attorneys shall be conclusive evidence of such good faith. Escrow Agent shall not be under any duty or obligation to ascertain the identity, authority or rights of the parties executing or delivering or purporting to execute or deliver these instructions or any documents or papers or payments deposited or called for hereunder, and assumes no responsibility or liability for the validity or sufficiency of these instructions or any documents or papers or payments deposited or called for hereunder.

7. The Agreement may be supplemented, altered, amended, modified or revoked by writing only, signed by all of the parties hereto.

8. This Agreement may be executed in two or more counterparts and all counterparts so executed shall for all purposes constitute one agreement, binding on all the parties hereto, notwithstanding that all parties shall not have executed the same counterpart. The parties agree that this Agreement may be electronically signed. The parties agree that any electronic signatures appearing on this Agreement are the same as handwritten signatures for the purposes of validity, enforceability and admissibility. Any PDF or facsimile transmittal of electronically signed versions of this Agreement shall be considered to have the same legal effect as execution and delivery of the original document and shall be treated in all manner and respects as an original document.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

[SIGNATURE PAGES FOLLOW]

SIGNATURE PAGE TO ESCROW AGREEMENT

**FIRST AMERICAN TITLE INSURANCE
COMPANY**

By: _____
Name: _____
Title: _____

[Signatures Continued on Following Page]

SIGNATURE PAGE TO ESCROW AGREEMENT

CITY OF FLOWERY BRANCH, GEORGIA

By: _____
Edward R. Asbridge, Mayor

[Signatures Continued on Following Page]

SIGNATURE PAGE TO ESCROW AGREEMENT

FLOWERY BRANCH APARTMENTS OWNER, LLC,
a Delaware limited liability company

By: Flowery Branch Venture LLP,
a Delaware limited liability partnership,
its Sole Member

By: WF Flowery Branch, LLC,
a Delaware limited liability company,
its Administrative Partner

By: _____
Name: Patrick Kassin
Title: Vice President

**FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY**

SUBJECT: Folksong Escrow Agreement

DATE: July 21, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- No Change

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing the escrow agreement for Folksong (previously Woodfield) governing the \$150,000 escrowed funds for future improvements to the wastewater system.

HISTORY: Woodfield has completed all of its obligatory processes required by the City of Flowery Branch concerning the apartment complex. Part of that process was to deposit \$150,000 into an escrow account.

FACTS AND ISSUES: Woodfield's buyer, Folksong's title company requires this executed document as a part of the sale and escrowed funds.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the Folksong Escrow Agreement.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider Approving an Estoppel Agreement in connection with the sale of the Woodfield Apartment Complex Development.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Flowery Branch Apartments Owner, LLC (“Woodfield”) is currently developing an apartment complex located on a portion of 4496 Hog Mountain Road per the land use authorized by Ordinance No. 582, which is attached. Condition No. 6 of this rezoning ordinance required Woodfield to execute and provide the City with a Uniform Deed of Conservation and Trail Easement covering the back part of the subject parcel along I-985. As a condition to connect to sewer, Woodfield also entered into the attached sewer development agreement and amendment.

FACTS AND ISSUES:

FACTS AND ISSUES: Woodfield has notified the City that it intends to sell its apartment complex development to Starlight Investments Acquisition, LLC (“Folksong”). As part of its due diligence, Folksong is requesting the City agree that Woodfield has to date complied with conservation and trail easement rezoning condition and certain terms of the sewer development agreement by approving and signing the attached Estoppel Agreement. An estoppel agreement such as this is common in real estate transactions. Its purpose is for a third party (City) to confirm to the buyer (Folksong) that the seller’s representations (Woodfield) are true.

The rezoning condition has been met as shown by the attached recorded Uniform Deed of Conservation and Trail Easement.

The Estoppel Agreement asks the City to agree to the following:

- a. The construction by the Existing Owner of the Connection Project has been completed in full accordance and satisfaction with the Sewer Agreement;
- b. The City issued the certification of completeness of the Connection Project on July 15, 2022, and accordingly, Section VIII of the Sewer Agreement requires the Existing Owner to escrow the Developer’s Escrow Contribution in accordance with the terms and provisions thereof on or before July 29, 2022;
- c. The Existing Owner has provided the City with all of the necessary Design Documents, as and when required under the Sewer Agreement; and
- d. The Existing Owner has paid all sums of the Developer’s Cash Contribution to the City, as and when required under the Sewer Agreement.

Per the City Manager and/or City Water and Sewer Engineer, these four events have occurred.

Given that Woodfield and/or the City have signed and recorded a Uniform Deed of Conservation and Trail Easement as well as complied with the particular provisions of the sewer development agreement identified in the Estoppel Agreement, staff recommends the city council approve the Estoppel Agreement.

OPTIONS:

As all obligations as outlined in the Estoppel Agreement have been met, approve the Estoppel Agreement as presented.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

Approve the estoppel as presented.

SAMPLE MOTION:

I make a motion to approve the Estoppel Agreement regarding the Woodfield apartment complex sale as presented.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Woodfield Rezoning Ordinance.pdf](#)
- [Woodfield Sewer Development Agreement.pdf](#)
- [Trail Easement Book09113Page0627.pdf](#)
- [Executive Summary - Woodfield Estoppel Agreement ERB Rev - final.pdf](#)
- [Raised_Manholes_Exhibit.pdf](#)
- [First_Amendment_-_Sewer_Development_Agreement.pdf](#)
- [Starlight \(Folksong\) - City Agreement Estoppel 4894-9613-5967_3.pdf](#)

Public Hearing Published 5/30/19
Public Hearing 8/15/19

First Reading 8/15/19
Adopted 9/19/19

ORDINANCE NO. 582

AN ORDINANCE AMENDING THE ZONING MAP OF THE CITY OF FLOWERY BRANCH, GEORGIA, BY REZONING 32.5 +/- ACRES OF LAND OWNED BY FLOWERY BRANCH LAND, LLC. COMMONLY KNOWN AS 4496 HOG MOUNTAIN ROAD AND IDENTIFIED AS TAX PARCEL 08097000001A, AS SHOWN ON ATTACHED EXHIBIT "A", AS DESCRIBED ON ATTACHED EXHIBIT "B", BY REZONING SAID TRACT OF LAND FROM A (AGRICULTURAL) TO R-3 (MULTI-FAMILY RESIDENTIAL) AND HB (HIGHWAY BUSINESS) SUBJECT TO THE CONDITIONS SET FORTH IN ATTACHED EXHIBIT "C"; PROVIDING FOR SEVERABILITY, REPEALING CONFLICTING ORDINANCES, PROVIDING FOR AN EFFECTIVE DATE AND FOR ALL OTHER LAWFUL PURPOSES.

WHEREAS, Flowery Branch Land, LLC., owns all that tract or parcel of land being considered for rezoning totaling 32.5 +/- acres identified as Parcel Tax Identification No. 08097000001A, as shown on Exhibit "A", and as described on Exhibit "B"; and

WHEREAS, the City Council of the City of Flowery Branch has considered the application as submitted by Planners and Engineers Collaborative, Inc., and in conjunction with the standards set forth in Article 34 - Section 34.7 of Zoning Ordinance No. 348 of the City of Flowery Branch, Georgia; and

WHEREAS, Planners and Engineers Collaborative, Inc., has submitted to the City Council of Flowery Branch, Georgia, a written and signed application requesting to be rezoned and whereas a survey and complete description of the land to be rezoned is included in the application; and

WHEREAS, the City Council held a public hearing at the meeting of August 15th, 2019, duly noticed as prescribed by law and published in the Gainesville Times, regarding said application, as shall be set forth in the minutes of said meeting.

NOW THEREFORE, THE COUNCIL OF THE CITY OF FLOWERY BRANCH HEREBY ORDAINS AS FOLLOWS:

SECTION 1. FINDINGS:

The City Council finds that the proposed rezoning of the parcel from Flowery Branch A (Agricultural) to Flowery Branch M-3 (Residential Multi-Family) and HB (Highway Business) is consistent with the adopted standards for governing the exercise of the zoning power consistent with O.C.G.A. § 36-66-5 and requirements of the Zoning Ordinance as identified below.

1. The proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.

2. The proposal is not expected to adversely affect the existing use or usability of adjacent or nearby property.
3. The property could be used in accordance with the existing regulations and has a reasonable economic use as currently zoned A.
4. The development if approved and constructed is not expected to result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.
5. The proposal is in conformity with the policy and intent of the comprehensive plan including the character area map and future land use plan map.
6. The proposal is considered appropriate in view of existing use(s) and zoning of the subject property and nearby properties.
7. No determination has been made by staff with regard to the value differential between development under the current zonings as opposed to proposed.
8. A proposed development will not be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations.
9. There are no known adverse effects that would result from the change in zoning district map, or change in use, on the character of a zoning district.
10. Development as proposed is not expected to impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality. Compliance with city subdivision and land development regulations will be required, which include but are not limited to soil erosion and sedimentation, stormwater, and flood damage prevention.

SECTION 2. LEGAL DESCRIPTION:

The rezoning of the subject parcel, as shown on Exhibit "A" and as legally described in Exhibit "B", from A (Agricultural) to M-3 (Multi-Family Residential) and HB (Highway Business). Said Exhibits are incorporated.

SECTION 3. AMENDMENT OF THE ZONING MAP:

This Ordinance is enacted as an amendment to the Zoning Map of Flowery Branch, Georgia. Accordingly, the Zoning Administrator is hereby authorized to update the Official Map consistent with Article 3 of the Zoning Ordinance.

SECTION 4. SEVERABILITY:

Should any section or provision of this Ordinance be declared invalid or unconstitutional by any court of competent jurisdiction, such declaration shall not affect the validity of this Ordinance as a whole or any part thereof which is not specifically declared to be invalid or unconstitutional.

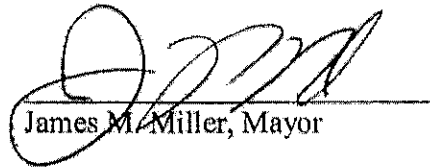
SECTION 5. EFFECTIVE DATE:

The effective date of this Ordinance shall be September 19, 2019.

SECTION 6. REPEALER:

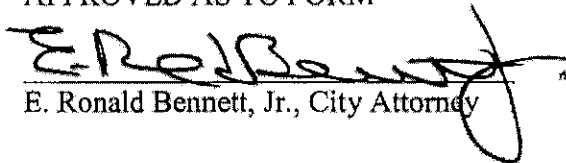
All ordinances and parts of ordinances in conflict herewith are hereby repealed to the extent of the conflict.

Approved this 19th day of September 2019.


James M. Miller, Mayor


Melissa McCain M.M.C., City Clerk

APPROVED AS TO FORM


E. Ronald Bennett, Jr., City Attorney

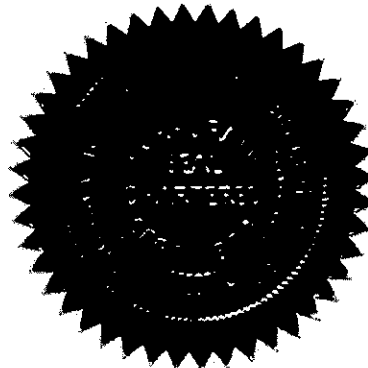


Exhibit "A"

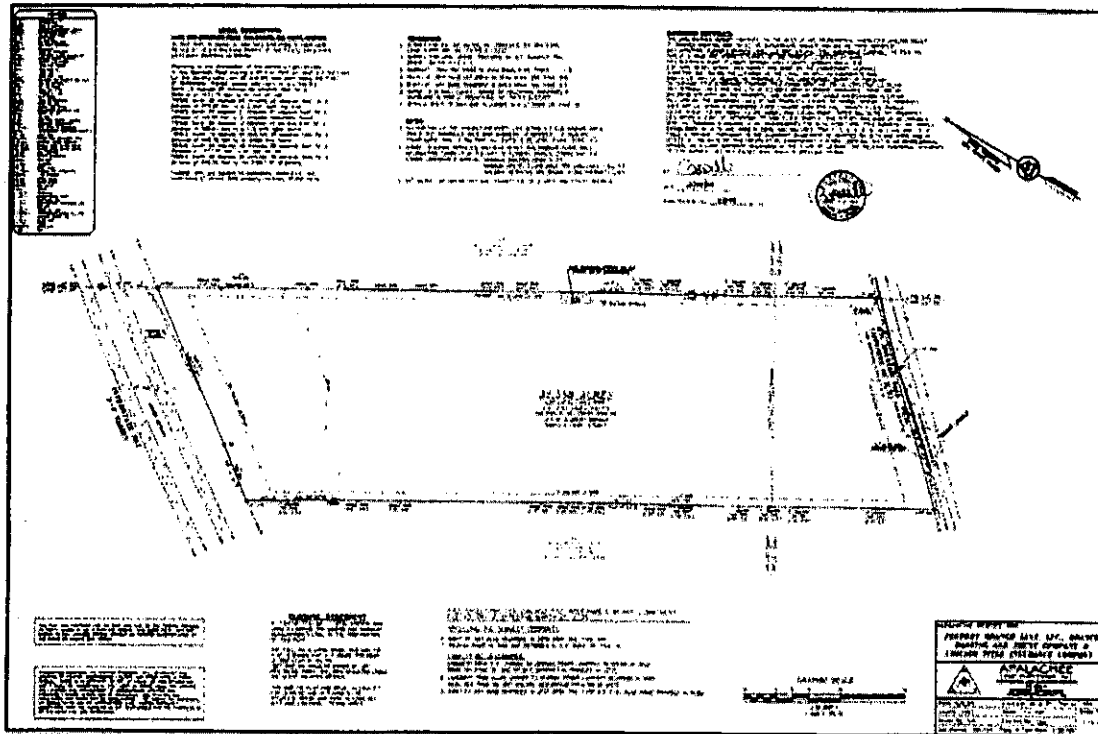


Exhibit "B"

Legal Description – PROPOSED HB (HIGHWAY BUSINESS) COMMERCIAL TRACT

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 96 of the 8th District, Hall County, Georgia and being more particularly described as follows:

To find the TRUE POINT OF BEGINNING, commence at an iron pin found at the intersection of the westerly right-of-way line of Hog Mountain Road and the Land Lot Line common to Land Lots 94 & 96; thence along said westerly right-of-way line of Hog Mountain Road the following courses and distances: South 15 degrees 44 minutes 25 seconds East a distance of 56.51 feet to a point and the TRUE POINT OF BEGINNING, from the TRUE POINT OF BEGINNING as thus established; thence continue Southerly along said line, a distance of 386.15 feet to a point; thence leaving said right-of-way line, South 62 degrees 30 minutes 6 seconds West a distance of 302.38 feet to a point; thence North 16 degrees 11 minutes 29 seconds West a distance of 445.42 feet to a point; thence North 73 degrees 48 minutes 31 seconds East a distance of 299.56 feet to a point and the TRUE POINT OF BEGINNING.

Said tract containing 2.84 acres more or less.

Legal Description – PROPOSED R-3 RESIDENTIAL TRACT

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lots 96 & 97 of the 8th District, Hall County, Georgia and being more particularly described as follows:

BEGINNING at an iron pin found at the intersection of the westerly right-of-way line of Hog Mountain Road and the Land Lot Line common to Land Lots 94 & 96; thence along said westerly right-of-way line of Hog Mountain Road South 15 degrees 44 minutes 25 seconds East a distance of 56.51 feet to a point; thence leaving said right-of-way line South 73 degrees 48 minutes 31 seconds West a distance of 299.56 feet to a point; thence South 16 degrees 11 minutes 29 seconds East a distance of 445.42 feet to a point; thence North 62 degrees 30 minutes 6 seconds East a distance of 302.38 feet to a point; thence along said right-of-way line South 15 degrees 44 minutes 25 seconds East a distance of 230.04 feet to a point; thence leaving said right-of-way line North 89 degrees 18 minutes 2 seconds West a distance of 1,872.33 feet to a point; thence South 89 degrees 18 minutes 10 seconds West a distance of 275.00 feet to a point; thence North 22 degrees 19 minutes 50 seconds West a distance of 184.60 feet to a point; thence North 23 degrees 38 minutes 10 seconds West a distance of 526.57 feet to a point; thence South 89 degrees 36 minutes 45 seconds East a distance of 468.38 feet to a point; thence South 89 degrees 17 minutes 25 seconds East a distance of 1,777.70 feet to a point and the TRUE POINT OF BEGINNING.

Said tract containing 29.71 acres more or less.

Legal Description - OVERALL.

14496 Hog Mountain Road, Tax Parcel NO. 08097 000001A

All that tract or parcel of land lying and being in Land Lots 96 and 97 of the 8th Land District of Hall County being more particularly described as follows:

Beginning at the intersection of the northerly right-of-way of Hof Mountain Road (having a 80 foot right-of-way) and the Land Lot line dividing Land Lot 96 and 93, said point being the POINT OF BEGINNING; THENCE leaving said right-of-way heading North 29 degrees 26 minutes 42 seconds West for a distance of 1872.33 feet to an iron pin set;

THENCE North 30 degrees 50 minutes 30 seconds West for a distance of 275.00 feet to a 3 inch open top pipe;

THENCE North 37 degrees 31 minutes 30 seconds East for a distance of 184.60 feet to a concrete monument found;

THENCE North 36 degrees 13 minutes 10 seconds East for a distance of 526.57 feet to a ½ inch rebar found;

THENCE South 29 degrees 45 minutes 25 seconds East for a distance of 468.38 feet to an angle iron found;

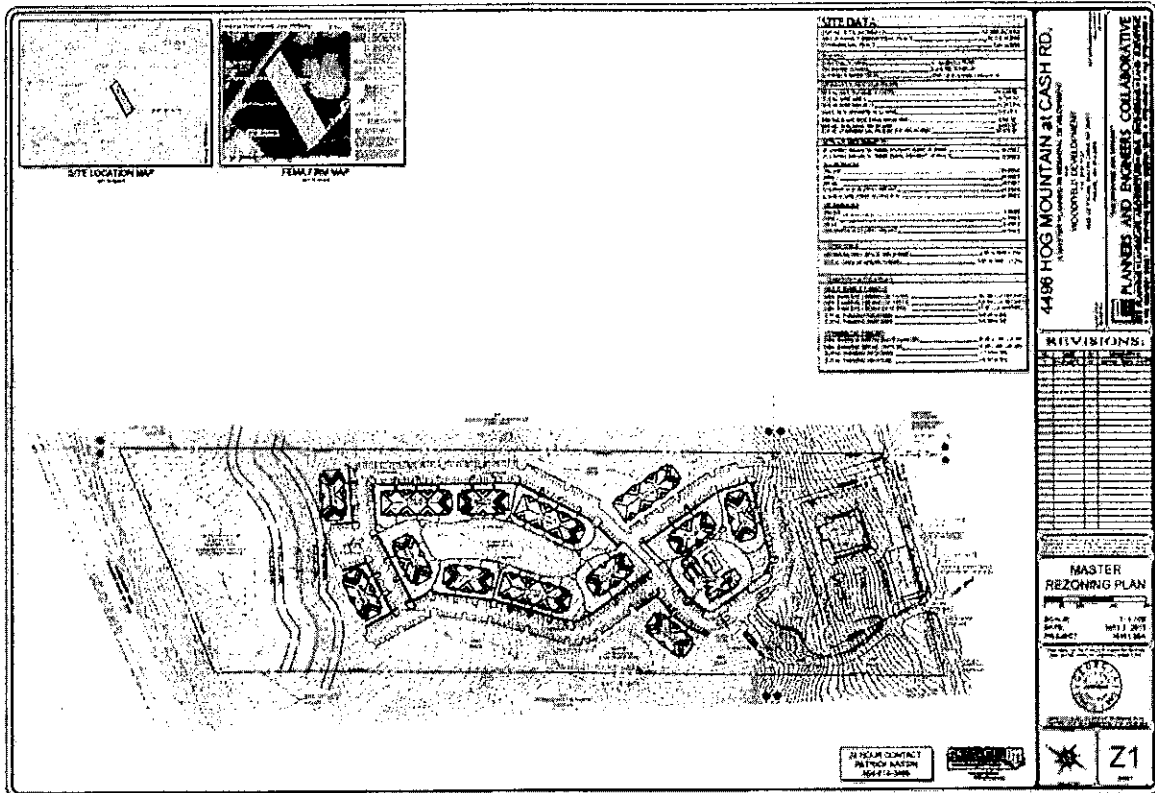
THENCE South 29 degrees 26 minutes 05 seconds East for a distance of 1777.70 feet to an iron pin set;

THENCE South 44 degrees 06 minutes 55 seconds West for a distance of 672.70 feet to the POINT OF BEGINNING.

Together with and subject to covenants, easements, and restrictions of record. Said property contains 32.558 acres.

Exhibit "C"
Conditions of Zoning

1. Development shall be generally consistent with the site plan as shown below. Any significant changes to the site plan will require City Council approval.



2. Streets, sidewalks, and all stormwater facilities shall be privately owned and maintained.
3. Overall signage plan shall be submitted and approved by the Department of Community Development.
4. Overall lighting plan shall be submitted and approved by the Department of Community Development.
5. The Developer and City shall enter into the Development Agreement related to certain transportation system improvements.
6. Prior to the issuance of a Building Permit, the Developer shall execute and provide to the City for its execution the City of Flowery Branch Uniform Deed of Conservation and Trail Easement in substantially the same form as the attached. Upon the City's execution of the Easement, the Developer shall record the Easement and provide the City with a copy of the recorded Easement. The City's approval and execution of the Easement shall not impact the issuance of the Developer's Building Permit or any other necessary City permit, license, or approval.
7. Building materials shall be predominately brick, stacked stone, and/or cement siding (hardi-plank).

8. Elevations for all buildings must be approved by the Department of Community Development and the City Council prior to the issuance of a building permit.
9. The developer shall have the right to adjust the mix of one-bedroom and two-bedroom residential units in response to market conditions. Three-bedroom units shall be limited to no more than 10% of the total number of residential units at project build-out. Up to five (5) additional three-bedroom residential units may be constructed with the approval of the Director of Planning and Community Development. If the developer seeks to construct more than five (5) additional three-bedroom units, City Council approval shall be required.

eFiled and eRecorded
DATE: 03/23/2022
TIME: 2:30 PM
DEED BOOK: 9087
PAGE: 613 - 656
FILING FEES: \$25.00
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 4591293252
RECORDED BY: JP
CLERK: Charles Baker, C.S.C
Hall County, GA

UPON RECORDING RETURN TO:
Troutman Pepper Hamilton Sanders LLP
600 Peachtree Street, N.E.
Suite 3000
Atlanta, Georgia 30308
Attn: David C. Kirk

STATE OF GEORGIA

COUNTY OF HALL

AGREEMENT BY AND BETWEEN FLOWERY BRANCH APARTMENTS OWNER, LLC AND THE CITY OF FLOWERY BRANCH, GEORGIA, FOR ACCESS TO AND MAINTENANCE OF THE SANITARY SEWER SYSTEM

This AGREEMENT is made and entered into this 22nd day of March, 2022, by and between FLOWERY BRANCH APARTMENTS OWNER, LLC, a Delaware limited liability company, located at 8210 Creedmoor Road, Suite 103, Raleigh, North Carolina 27613 ("DEVELOPER") and the City of Flowery Branch, Georgia, a Georgia municipal corporation, located at 5410 Pine Street, Flowery Branch, Georgia 30542 ("CITY") for the purpose of maintaining, repairing, and improving the CITY'S sanitary sewer system by acknowledging DEVELOPER'S rights to immediately utilize sanitary sewer lines and a lift station conveyed to CITY by the Hall County Board of Education on property at 4450 Hog Mountain Road by installing a new sewer connection to an existing manhole on such property ("CONNECTION PROJECT") and, further, for the purpose of providing for the CITY'S eventual enhancement of the sanitary sewer system through an

additional project to be determined by the CITY (the "ENHANCEMENT"). Together, the CONNECTION PROJECT and ENHANCEMENT are referred to herein as "THE PROJECTS."

WHEREAS, DEVELOPER is the developer of 32.49 acres of land commonly known as the Woodfield Flowery Branch Apartments located at 4496 Hog Mountain Road within the City of Flowery Branch, Georgia (Tax Parcel 08097 000001A), consisting of approximately 342 residential units as shown on Exhibit A, attached hereto and incorporated herein ("DEVELOPMENT") and desires certain commitments from the CITY in regard to THE PROJECTS; and

WHEREAS, DEVELOPER is the owner of a permanent sewer and temporary construction easement on property owned by the Hall County Board of Education on property at 4450 Hog Mountain Road adjacent to DEVELOPMENT that gives DEVELOPER the right to perform the CONNECTION PROJECT to connect to the CITY sewer system through a manhole located on the School Board property, recorded in Book 8771 at Pages 425 - 435 of the records of Hall County, Georgia, and as shown on Exhibit B attached hereto and incorporated herein; and

WHEREAS, CITY acknowledges such rights, has previously approved plans for the CONNECTION PROJECT, and desires the DEVELOPER carry out the CONNECTION PROJECT; and

WHEREAS, DEVELOPER owns certain design and engineering documents for a possible future gravity sewer line from the CITY-owned lift station to another portion of the CITY sewer system ("DESIGN DOCUMENTS") that it is willing to provide to the CITY for potential use in the ENHANCEMENT; and

WHEREAS, DEVELOPER is the owner of a certain perpetual easement on property adjacent to DEVELOPMENT, and recorded in Book 9078 at Pages 536 - 553 of the records of Hall County, Georgia, as shown on Exhibit C, attached hereto and incorporated herein, that it is willing to assign to CITY and is also willing to grant an easement across a portion of DEVELOPMENT for CITY'S potential use in the ENHANCEMENT ("EASEMENTS"); and

WHEREAS, CITY is the owner of a pump station, sanitary sewer lines, and perpetual easements for same on property owned by the Hall County Board of Education by virtue of a Sewer System Facilities Dedication dated October 9, 2000, and recorded in Book 3782 at Pages 547 & 548 of the records of Hall County, Georgia, ("DEDICATION") as shown on Exhibit D, attached hereto and incorporated herein; and

WHEREAS, the CITY and DEVELOPER desire to cooperate in the design and construction of THE PROJECTS to maintain, repair, and improve the CITY'S sanitary sewer service to serve said DEVELOPMENT and other existing and planned developments in the City of Flowery Branch.

NOW THEREFORE, DEVELOPER and CITY agree to the following:

- I. CITY acknowledges DEVELOPER has prepared the engineering design of the CONNECTION PROJECT which has been accomplished by professional engineers registered in the State of Georgia and that the design complies with all relevant CITY specifications and standards. City further acknowledges the design and plans for the CONNECTION PROJECT have been approved in writing by the CITY engineer.
- II. DEVELOPER shall be responsible for and shall provide all labor and materials necessary for the construction of the CONNECTION PROJECT.
- III. DEVELOPER shall notify CITY in writing of its right to inspect the CONNECTION PROJECT prior to completion of construction of the CONNECTION PROJECT. DEVELOPER shall not bear the cost of said CITY inspection.
- IV. DEVELOPER shall provide CITY a statement from the CONNECTION PROJECT engineer certifying that the materials and workmanship meet CITY specifications and standards. Upon request of CITY, DEVELOPER shall substantiate by material affidavits from suppliers and by applicable test results. DEVELOPER shall provide CITY two copies of "as-built" drawings of the CONNECTION PROJECT.

- V. DEVELOPER shall provide CITY with copies of all lien releases by material and equipment suppliers for the CONNECTION PROJECT.
- VI. The CONNECTION PROJECT shall be complete upon certification in writing by the City Engineer and City Manager and upon such certification CITY shall permit connection of the DEVELOPMENT to the CITY sewer system.
- VII. Within ten (10) business days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY'S sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER shall provide the CITY with the DESIGN DOCUMENTS as well as funds equal to \$50,000.00 (Fifty Thousand Dollars) ("DEVELOPER'S CASH CONTRIBUTION"), such DEVELOPER'S CASH CONTRIBUTION to be used by the CITY for design and engineering, easement acquisition, and construction of the ENHANCEMENT PROJECT, the scope, location, and timing of which shall be at the CITY'S discretion.
- VIII. Within ten (10) business days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY'S sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER also shall deposit into escrow funds equal to \$150,000.00 (One Hundred Fifty Thousand Dollars) ("DEVELOPER'S ESCROW CONTRIBUTION") for the CITY'S eventual use for the ENHANCEMENT. The DEVELOPER'S ESCROW CONTRIBUTION will be escrowed with the national title insurance company that has issued DEVELOPER'S title insurance policy or another company mutually agreed upon by the DEVELOPER and the CITY. Together, the DEVELOPER'S CASH CONTRIBUTION and DEVELOPER'S ESCROW CONTRIBUTION (totaling \$200,000.00) will be DEVELOPER'S maximum monetary contribution towards the ENHANCEMENT.

- IX. Except as otherwise provided herein, DEVELOPER or its successors in interest or assigns shall be responsible for maintaining the CONNECTION PROJECT for one year after the CITY certifies the CONNECTION PROJECT complete. DEVELOPER shall transfer all applicable warranties to the CITY within fourteen (14) days before the expiration of the one-year maintenance period.
- X. Except as otherwise provided herein, upon the completion of the one-year maintenance period described in Paragraph IX of this AGREEMENT, DEVELOPER or its successors in interest or assigns shall dedicate all rights, title, and interest that DEVELOPER or its successors in interest or assigns may have in the CONNECTION PROJECT and any real property, including but not limited to easements or rights-of-way, necessary for the purpose of owning, operating and/or maintaining the CONNECTION PROJECT by providing CITY a recordable plat(s) showing all utilities within public easements and/or rights of way to be owned and maintained by the CITY. CITY shall not accept said dedication until such time that all property offered by DEVELOPER or its successors in interest or assigns for acceptance by the CITY is free and clear of all encumbrances including but not limited to liens and security interests.
- XI. Within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY'S sewer system as described in Paragraph VI of this AGREEMENT, the CITY shall have the right to direct DEVELOPER in writing to construct, at DEVELOPER'S expense, a direct connection to the CITY-owned pump station on property owned by the Hall County Board of Education using, in DEVELOPER'S sole discretion, either the existing CITY-owned easement as depicted in the DEDICATION attached hereto as Exhibit C, provided such easement is undisputed by the Hall County Board of Education, or another easement obtained by DEVELOPER or CITY

and to discontinue the use of the CONNECTION PROJECT. Upon receipt of such written direction from the CITY, DEVELOPER shall have an additional ninety (90) calendar days to construct the direct connection to the CITY-owned pump station and discontinue the use of the CONNECTION PROJECT, at which time DEVELOPER shall be relieved of any obligations contained in Paragraphs IX and X of this AGREEMENT. Should CITY not exercise its right under this Paragraph XI within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY'S sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER shall have no obligation to connect to the CITY-owned pump station. Likewise, should the DEVELOPER'S use of the CITY-owned easement, as depicted in the DEDICATION, be disputed by the Hall County Board of Education or if CITY or DEVELOPER is unable to obtain an undisputed easement from the Hall County Board of Education to construct a direct connection to the CITY-owned pump station, DEVELOPER shall have no obligation to connect to the CITY-owned pump station.

- XII. CITY acknowledges that DEVELOPER'S CASH CONTRIBUTION and DEVELOPER'S ESCROW CONTRIBUTION may represent only a portion of funds required for final design and engineering, easement acquisition, and construction of the ENHANCEMENT and agrees to fund all remaining costs of the ENHANCEMENT using CITY funds and other funding sources.
- XIII. DEVELOPER agrees that, no later than the issuance of the final certificate of occupancy for the DEVELOPMENT, it will grant CITY a perpetual easement for the construction and maintenance of the portion of a possible gravity sewer line that crosses the portion of the DEVELOPMENT indicated in Exhibit D, such easement being in substantially the same location as indicated on Exhibit D. DEVELOPER further agrees that, concurrent with the

grant of the aforementioned easement, it will assign to CITY all rights DEVELOPER has under any and all EASEMENTS obtained by DEVELOPER for portions of such gravity sewer line.

- XIV. DEVELOPER further agrees that, within ten (10) business days of the issuance of the final certificate of occupancy for the DEVELOPMENT, it will direct the escrow agent to release DEVELOPER'S ESCROW CONTRIBUTION to the CITY.
- XV. CITY acknowledges DEVELOPER previously has paid all required fees for CITY sewer capacity and/or connection to the CITY sewer system. CITY further agrees that, upon the completion of the CONNECTION PROJECT by DEVELOPER, CITY shall not withhold any certificates of occupancy for any portion of the DEVELOPMENT for any reason related to the CONNECTION PROJECT, sewer capacity, or sewer system improvements desired by the CITY.
- XVI. The term of this AGREEMENT shall be from the date first written above up and through one (1) year after completion of the PROJECTS unless terminated prior to such date by mutual agreement of CITY and DEVELOPER.
- XVII. All notices under this AGREEMENT shall be in writing and shall be deemed to have been given by delivering in-person, certified mail, or statutory overnight delivery to the following:

For CITY: Ms. Tonya Parrish
 City Manager
 City of Flowery Branch
 5410 Pine Street
 Flowery Branch, Georgia 30542

With Copy To: E. Ronald Bennett, Jr., Esq.
 Carothers & Mitchell, LLC
 1809 Buford Highway
 Buford, Georgia 30518

For DEVELOPER: Attn: Mr. Patrick Kassin

Flowery Branch Apartments Owner, LLC
8210 Creedmoor Road
Suite 103
Raleigh, North Carolina 27613

With Copy To: Stephanie E. Greer Fulcher, Esq.
Troutman Pepper Hamilton Sanders LLP
301 South College Street
34th Floor
Charlotte, North Carolina 28202

DEVELOPER or CITY may designate new or additional persons to receive such notices by providing written notice to the other party.

- XVIII. DEVELOPER shall indemnify and hold harmless CITY for any and all claims arising out of any act or omission related to the design and construction of the CONNECTION PROJECT made by DEVELOPER, or any person for whom DEVELOPER could be liable, prior to CITY acceptance of ownership of the CONNECTION PROJECT.
- XIX. The failure of any party to exercise any right given hereunder or to insist upon strict compliance with any term, condition, or covenant specified herein shall not constitute a waiver of such party's right to exercise such right or to demand strict compliance with any such term, condition, or covenant under this AGREEMENT.
- XX. This AGREEMENT contains the sole and entire agreement of the parties with respect to the PROJECTS contemplated hereunder and no representation, inducement, promise, or agreement, parole or written, between the parties and not incorporated herein shall be of any force or effect. Any amendment to this AGREEMENT shall be in writing and executed by the parties.
- XXI. The provisions of this AGREEMENT shall inure to the benefit or and be binding upon the parties hereto and the respective successors and assigns.
- XXII. Time is of the essence with respect to this AGREEMENT.

XXIII. This AGREEMENT and all amendments hereto shall be governed and construed under the laws of the State of Georgia.

XXIV. If any term, covenant, or condition of this AGREEMENT or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, such provision, or the application of such term, covenant, or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall be deemed severable, and the remainder hereof shall not be affected thereby, and each term, covenant, or condition of this AGREEMENT shall be valid and be enforced to the fullest extent permitted by law.

XXV. This AGREEMENT may be executed in several counterparts, each of which shall constitute an original and all of which together shall constitute one and the same instrument.

IN WITNESS THEREOF, the parties have set their hand and seal.

FLOWERY BRANCH APARTMENTS OWNER, LLC
FLOWERY BRANCH VENTURE LLP,
By: a Delaware LLP and sole
Manager of FLOWERY BRANCH APARTMENTS
OWNER, LLC

CITY OF FLOWERY BRANCH, GEORGIA

Patrick J. Kassir
By: Patrick J. Kassir

Edward R. Asbridge
By: Edward R. Asbridge, Mayor

ATTEST:

ATTEST:

Shelia R. Cooper

Shelia R. Cooper
By: Shelia Cooper, City Clerk

By:

SHELIA R COOPER NOTARY PUBLIC Gwinnett County State of Georgia My Commission Expires Sept 18, 2023

123572386v7

EXHIBIT A

EXHIBIT B

Recording Requested by and
Please Return to:

Michael Wall
Troutman Pepper Hamilton Sanders LLP
600 Peachtree Street, N.E., Suite 3000
Atlanta, GA 30308

eFiled and eRecorded
DATE: 03/30/2021
TIME: 8:50 AM
DEED BOOK: 8771
PAGE: 425 - 435
FILING FEES: \$25.00
PARTICIPANT ID: 4591293252
RECORDED BY: CH
CLERK: Charles Baker, C.S.C
Hall County, GA

PERMANENT SEWER AND TEMPORARY
CONSTRUCTION EASEMENT

THIS PERMANENT SEWER AND TEMPORARY CONSTRUCTION EASEMENT is executed this 26 day of Oct. 2020 by the Hall County Board of Education (hereinafter, "*Grantor*") for the benefit of Flowery Branch Apartments Owner, LLC, a Delaware limited liability company and its successors and assigns (the "*Grantee*").

WHEREAS, Grantee owns that certain parcel of land within the city of Flowery Branch, Hall County, Georgia having a tax parcel identification number of 08097-000001A (the "*Grantee Property*"), and requires certain easements as hereinafter described and granted in connection with the construction, maintenance, operation, and repair of certain Sewer Improvements (hereinafter defined) located within Hall County, Georgia; and

WHEREAS, Grantor owns that certain parcel of land located adjacent to the Grantee Property having a tax parcel identification number of 08093-000008 (the "*Grantor Property*"); the Grantor Property and the Grantee Property are collectively referred to herein as the "*Tracts*") and desires to grant such easements to Grantee for the consideration and upon the terms, conditions, and agreements hereinafter set forth.

NOW, THEREFORE, for and in consideration of TEN AND NO/100 DOLLARS (\$10.00), and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Grantor, said Grantor does hereby grant, bargain, sell, and release unto Grantee, its successors and assigns forever, the following easements subject to the terms, conditions, and agreements contained herein:

(1) A perpetual easement (the "*Sewer Easement*") for the construction, location, installation, operation, relocation, extension, inspection, maintenance, repair, alteration, modification, redesign, reconstruction, replacement, and removal of one or more sewer lines, together with all valves, appurtenances, apparatus, and equipment (collectively, the "*Sewer Improvements*") upon, over, along, across, through, and under the area identified as "20' Permanent Sewer Easement" on Exhibit A attached hereto (the "*Easement Area*"); and

(2) A temporary access and construction easement (the "*TCE*," and together with the Sewer Easement, the "*Easements*") upon, over, along, across, through, and under such portions of the Grantor Property as shall be reasonably necessary for the installation of the Sewer Improvements and the performance of related construction activities and the operation of construction equipment associated therewith.

TOGETHER with all the rights and privileges necessary or convenient for the full use and enjoyment of said Easements, including, without limitation, the rights of ingress, egress, and regress over, under, through, upon, and across the remainder of the Grantor Property and all rights of way and ingress and egress easements beneficial to Grantor and/or the above-described property.

TOGETHER also with the right from time to time to remove, cut, trim, or clear and keep clear trees, underbrush, structures, and obstructions upon said Easement Area, and the right of entry upon the Grantor Property, beneficial estates, and all rights of way for all of the purposes aforesaid; provided, however, that nothing herein shall create a duty of Grantee to remove said items or keep clear or maintain the Easement Area, beneficial estates, or rights of way.

These Easements shall run with title to the Tracts and shall be binding upon and inure to the benefit of the Grantor and the Grantee and their respective heirs, successors, assigns, administrators, and executors.

IT IS UNDERSTOOD AND AGREED that the Easements above described are granted and accepted upon the following terms and conditions:

The TCE granted herein shall automatically terminate, without the necessity of the execution of recording of any other document, upon the completion of the Sewer Improvements and the public dedication of same to the City of Flowery Branch, a municipal corporation of the state of Georgia (the "*City*").

Upon completion of the Sewer Improvements, Grantee may assign its rights hereunder to the City in connection with the public dedication of such Sewer Improvements, and Grantor hereby consents both to such assignment and to such dedication.

The Grantor will make no use of the Easement Area that is inconsistent with the uses and purposes for which the Easements have been granted and shall not interfere with Grantee's use of the Easement Area in any way, and without limiting the generality of this provision, the Grantor

agrees that no permanent structures such as buildings, sheds, and other structures shall be placed upon the Easement Area at any time.

TO HAVE AND TO HOLD, all and singular, the easement rights and privileges described unto Grantee, its successors and assigns forever.

And the Grantor does hereby bind itself and its heirs, successors, assigns, administrators and executors to warrant and forever defend all and singular the said premises unto Grantee, its successors and assigns against Grantor and Grantor's heirs, successors, assigns, administrators and executors and against every person whomsoever lawfully claiming or to claim the same or any part thereof. The terms of this instrument shall run with title to the Tracts, and shall bind and inure to the benefit of the parties hereto, their respective successors and assigns, and every other person now or hereafter acquiring an interest in or lien upon the Tracts, or any portion thereof.

If any covenant or other provision contained in this instrument is to any extent declared by a court of competent jurisdiction to be invalid or unenforceable, the remaining covenants, restrictions, and provisions contained herein (or the application of such covenants and provisions to persons or circumstances other than those in respect of which the determination of invalidity or unenforceability was made) will not be affected thereby and each covenant and provision contained in this instrument will be valid and enforceable to the fullest extent permitted by law.

This instrument may be executed in any number of counterparts, each of which shall be an original but all of which shall constitute one and the same instrument.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, said Grantor has hereunto set its hand and affixed seal, the day and year first above written.

Signed, sealed and delivered
in the presence of:

Ronelle C. Craven
Unofficial Witness

Rhonda Sizemore
Notary Public

My commission expires:

RHONDA SIZEMORE
NOTARY PUBLIC - Georgia
Hall County
My Commission Expires
April 24, 2021

GRANTOR:

HALL COUNTY BOARD OF EDUCATION

By: _____ (SEAL)
Name: Chaeanda
Title: Chairman

TABLE A
GASTROENTEROLOGY AREA

(See Attached)

Easement Line Table

Line #	Length	Direction
L1	190.89'	N55° 30' 24"E
L2	123.92'	N19° 05' 40"E
L3	84.69'	N82° 41' 47"E
L4	116.06'	N7° 18' 13"W
L5	149.19'	N74° 06' 01"E
L6	20.00'	S15° 53' 59"E
L7	131.99'	S74° 06' 01"W
L8	118.86'	S7° 18' 13"E
L9	92.29'	S82° 41' 47"W
L10	118.10'	S19° 05' 40"W
L11	199.13'	S55° 30' 24"W
L12	20.07'	N29° 45' 45"W

**INTERSTATE 985
A/K/A GEORGIA
HIGHWAY 385
& LANIER PARKWAY**
(PUBLIC, VARIABLE R/W,
LIMITED ACCESS)

POC
N.1523697.86
E.2375542.53
**20' PERMANENT
SEWER EASEMENT**
0.304 ACRES
13,251 S.F.

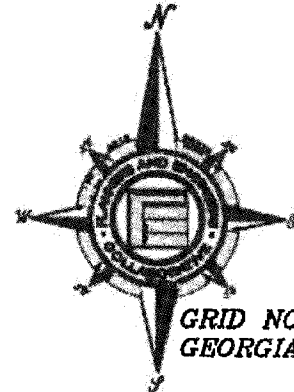
IPF 1" ANGLE IRON
1.1' S.W. @
OF P/L

POB
**20' PERMANENT
SEWER EASEMENT**
N.1523309.24
E.2375764.76

S29°45'45"E /
0.65'
(TIE TO 1"CTP @
ANGLE IRON)

IPF 1"CTP @ ANGLE IRON

N/F
HALL COUNTY B.O.E.
TAX PARCEL ID: 08093-000008
PLAT SLIDE BOOK 660 PG 189A



SHEET 1 OF 2

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(770) 451-2241 ■ WWW.PECATL.COM
C.O.A.-LSF000004

**20' PERMANENT SEWER
EASEMENT EXHIBIT FOR:**

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523697.86, E. 2375542.53, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 29 degrees 45 minutes 45 seconds East a distance of 447.67 feet to a point (N.1523309.24, E. 2375764.76, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE North 55 degrees 30 minutes 24 seconds East a distance of 190.89 feet to a point; thence North 19 degrees 05 minutes 40 seconds East a distance of 123.92 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 84.69 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 116.06 feet to a point; thence North 74 degrees 06 minutes 01 seconds East a distance of 149.19 feet to a point; thence South 15 degrees 53 minutes 59 seconds East a distance of 20.00 feet to a point; thence South 74 degrees 06 minutes 01 seconds West a distance of 131.99 feet to a point; thence South 07 degrees 18 minutes 13 seconds East a distance of 118.86 feet to a point; thence South 82 degrees 41 minutes 47 seconds West a distance of 92.29 feet to a point; thence South 19 degrees 05 minutes 40 seconds West a distance of 118.10 feet to a point; thence South 55 degrees 30 minutes 24 seconds West a distance of 199.13 feet to a point; thence North 29 degrees 45 minutes 45 seconds West a distance of 20.07 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 20 foot Permanent Sewer Easement having an area of 13251 square feet, 0.304 acres more or less

SHEET 2 OF 2

PLANNERS AND ENGINEERS COLLABORATIVE

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C.O.A. LS-000004

20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION FOR: :

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523697.86, E. 2375542.53, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 29 degrees 45 minutes 45 seconds East a distance of 447.67 feet to a point (N.1523309.24, E. 2375764.76, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE North 55 degrees 30 minutes 24 seconds East a distance of 190.89 feet to a point; thence North 19 degrees 05 minutes 40 seconds East a distance of 123.92 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 84.69 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 116.06 feet to a point; thence North 74 degrees 06 minutes 01 seconds East a distance of 149.19 feet to a point; thence South 15 degrees 53 minutes 59 seconds East a distance of 20.00 feet to a point; thence South 74 degrees 06 minutes 01 seconds West a distance of 131.99 feet to a point; thence South 07 degrees 18 minutes 13 seconds East a distance of 118.86 feet to a point; thence South 82 degrees 41 minutes 47 seconds West a distance of 92.29 feet to a point; thence South 19 degrees 05 minutes 40 seconds West a distance of 118.10 feet to a point; thence South 55 degrees 30 minutes 24 seconds West a distance of 199.13 feet to a point; thence North 29 degrees 45 minutes 45 seconds West a distance of 20.07 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 20 foot Permanent Sewer Easement having an area of 13251 square feet, 0.304 acres more or less

SHEET 2 OF 2

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C.O.A.-LSF000004

20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



Easement #2 Line Table		
Line #	Length	Direction
L25	20.07'	S29° 45' 45"E
L26	97.10'	N55° 30' 24"E
L27	102.02'	N55° 30' 24"E
L28	118.10'	N19° 05' 40"E
L29	92.29'	N82° 41' 47"E
L30	20.00'	N7° 18' 13"W
L31	20.00'	N82° 41' 47"E

L32	40.00'	S7° 18' 13"E
L33	20.04'	S82° 41' 47"W
L34	5.05'	S7° 14' 28"E
L35	20.00'	S82° 45' 32"W
L36	5.03'	N7° 14' 28"W
L37	59.85'	S82° 41' 47"W
L38	112.27'	S19° 05' 40"W
L39	108.60'	S55° 30' 24"W
L40	20.00'	N34° 29' 36"W

Easement #1 Line Table		
Line #	Length	Direction
L13	190.89'	N55° 30' 24"E
L14	123.92'	N19° 05' 40"E
L15	84.69'	N82° 41' 47"E
L16	95.83'	N7° 18' 13"W
L17	20.23'	S74° 06' 01"W
L18	40.45'	N7° 18' 13"W
L19	186.40'	N74° 06' 01"E
L20	40.00'	S15° 53' 59"E
L21	20.00'	S74° 06' 01"W
L22	20.00'	N15° 53' 59"W
L23	149.19'	S74° 06' 01"W
L24	20.23'	S7° 18' 13"E

**INTERSTATE 985
A/K/A GEORGIA
HIGHWAY 365 &
LANIER PARKWAY**
(PUBLIC, VARIABLE R/W,
LIMITED ACCESS)

POC IPF #4RB
N.1523697.86
E.2375542.53

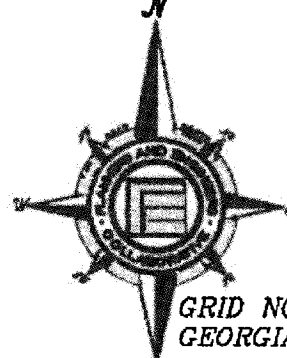
**40' TEMPORARY
CONSTRUCTION
EASEMENT #1**
0.105 ACRES
4563 S.F.

**40' TEMPORARY
CONSTRUCTION
EASEMENT #2**
0.161 ACRES
7033 S.F.

IPF 1" ANGLE IRON
1.1' S.W. @
OF P/L

S29°45'45"E/
0.65'
(TIE TO 1"CTP @
ANGLE IRON)

N/F
HALL COUNTY B.O.E.
TAX PARCEL ID: 08093-000008
PLAT SLIDE BOOK 660 PG 189A



GRID NORTH
GEORGIA WEST ZONE
SHEET 1 OF 3

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C.O.A.-LSF000004

40' TEMPORARY CONSTRUCTION EASEMENT EXHIBIT FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



40' TEMPORARY CONSTRUCTION EASEMENT #1

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523697.86, E. 2375542.53, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 29 degrees 45 minutes 45 seconds East a distance of 447.67 feet to a point; thence North 55 degrees 30 minutes 24 seconds East a distance of 190.89 feet to a point; thence North 19 degrees 05 minutes 40 seconds East a distance of 123.92 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 84.69 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 95.83 feet to a point (N.1523640.27, E.2376034.45, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE South 74 degrees 06 minutes 01 seconds West a distance of 20.23 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 40.45 feet to a point; thence North 74 degrees 06 minutes 01 seconds East a distance of 186.40 feet to a point; thence South 15 degrees 53 minutes 59 seconds East a distance of 40.00 feet to a point; thence South 74 degrees 06 minutes 01 seconds West a distance of 20.00 feet to a point; thence North 15 degrees 53 minutes 59 seconds West a distance of 20.00 feet to a point; thence South 74 degrees 06 minutes 01 seconds West a distance of 149.19 feet to a point; thence South 07 degrees 18 minutes 13 seconds East a distance of 20.23 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 40 foot Temporary Construction Easement #1 having an area of 4563 square feet, 0.105 acres more or less

SHEET 2 OF 3

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C.O.A.-LSP000004

40' TEMPORARY CONSTRUCTION EASEMENT #1 LEGAL DESCRIPTION FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18151.01A
DATE: 7/09/20
SCALE: 1"=100'



40' TEMPORARY CONSTRUCTION EASEMENT #2

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523697.86, E.2375542.53, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 29 degrees 45 minutes 45 seconds East a distance of 447.67 feet to a point; thence South 29 degrees 45 minutes 45 seconds East a distance of 20.07 feet to a point; thence North 55 degrees 30 minutes 24 seconds East a distance of 97.10 feet to a point (N.1523346.81, E.2375854.75, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE North 55 degrees 30 minutes 24 seconds East a distance of 102.02 feet to a point; thence North 19 degrees 05 minutes 40 seconds East a distance of 118.10 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 92.29 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 20.00 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 20.00 feet to a point; thence South 07 degrees 18 minutes 13 seconds East a distance of 40.00 feet to a point; thence South 82 degrees 41 minutes 47 seconds West a distance of 20.04 feet to a point; thence South 07 degrees 14 minutes 28 seconds East a distance of 5.05 feet to a point; thence South 82 degrees 45 minutes 32 seconds West a distance of 20.00 feet to a point; thence North 07 degrees 14 minutes 28 seconds West a distance of 5.03 feet to a point; thence South 82 degrees 41 minutes 47 seconds West a distance of 59.85 feet to a point; thence South 19 degrees 05 minutes 40 seconds West a distance of 112.27 feet to a point; thence South 55 degrees 30 minutes 24 seconds West a distance of 108.60 feet to a point; thence North 34 degrees 29 minutes 36 seconds West a distance of 20.00 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 40 foot Temporary Construction Easement #2 having an area of 7033 square feet, 0.161 acres more or less

SHEET 3 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE

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■ CIVIL ENGINEERING ■ LAND SURVEYING

350 RESEARCH COURT PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2741 ■ WWW.PECATL.COM
C.O.A.-LSF000004

40' TEMPORARY CONSTRUCTION EASEMENT #2 LEGAL DESCRIPTION FOR:

DRAWN BY: MN WOODFIELD DEVELOPMENT
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



EXHIBIT C

eFiled and eRecorded
DATE: 03/11/2022
TIME: 7:08 AM
DEED BOOK: 9078
PAGE: 536 - 553
FILING FEES: \$25.00
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 4591293252
RECORDED BY: JP
CLERK: Charles Baker, C.S.C
Hall County, GA

Recording Requested by and
Please Return to:

Michael Wall
Troutman Pepper Hamilton Sanders LLP
600 Peachtree Street, N.E., Suite 3000
Atlanta, GA 30308

PERMANENT SEWER AND TEMPORARY
CONSTRUCTION EASEMENT

THIS PERMANENT SEWER AND TEMPORARY CONSTRUCTION EASEMENT is executed this 31st day of March, 2020 (the "*Effective Date*") by the Estate of Mary Elizabeth R. Hickman, Louise Harley Hull, William Watt Neal, Jr. and Mary E. Roberts, f/k/a Mary Neal (collectively, "*Grantor*") for the benefit of Flowery Branch Apartments Owner, LLC, a Delaware limited liability company and its successors and assigns (the "*Grantee*").

WHEREAS, Grantee owns that certain parcel of land within the city of Flowery Branch, Hall County, Georgia having a tax parcel identification number of 08097-000001A (the "*Grantee Property*"), and requires certain easements as hereinafter described and granted in connection with the construction, maintenance, operation, and repair of certain Sewer Improvements (hereinafter defined) located within Hall County, Georgia; and

WHEREAS, Grantor owns that certain parcel of land located adjacent to the Grantee Property having a tax parcel identification number of 08097-000005 (the "*Grantor Property*"); the Grantor Property and the Grantee Property are collectively referred to herein as the "*Tracts*") and desires to grant such easements to Grantee for the consideration and upon the terms, conditions, and agreements hereinafter set forth.

NOW, THEREFORE, for and in consideration of TEN AND NO/100 DOLLARS (\$10.00), and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Grantor, said Grantor does hereby grant, bargain, sell, and release unto Grantee,

its successors and assigns forever, the following easements subject to the terms, conditions, and agreements contained herein:

(1) A perpetual easement (the "**Sewer Easement**") for the construction, location, installation, operation, relocation, extension, inspection, maintenance, repair, alteration, modification, redesign, reconstruction, replacement, and removal of one or more sewer lines, together with all valves, appurtenances, apparatus, and equipment (collectively, the "**Sewer Improvements**") upon, over, along, across, through, and under the area identified as "20' Permanent Sewer Easement" on Exhibit A attached hereto (the "**Easement Area**"); and

(2) A temporary access and construction easement (the "**TCE**," and together with the Sewer Easement, the "**Easements**") upon, over, along, across, through, and under such portions of the Grantor Property as shall be reasonably necessary for the installation of the Sewer Improvements and the performance of related construction activities and the operation of construction equipment associated therewith.

TOGETHER with all the rights and privileges necessary or convenient for the full use and enjoyment of said Easements, including, without limitation, the rights of ingress, egress, and regress over, under, through, upon, and across the remainder of the Grantor Property and all rights of way and ingress and egress easements beneficial to Grantor and/or the above-described property.

TOGETHER also with the right from time to time to remove, cut, trim, or clear and keep clear trees, underbrush, structures, and obstructions upon said Easement Area, and the right of entry upon the Grantor Property, beneficial estates, and all rights of way for all of the purposes aforesaid; provided, however, that nothing herein shall create a duty of Grantee to remove said items or keep clear or maintain the Easement Area, beneficial estates, or rights of way.

These Easements shall run with title to the Tracts and shall be binding upon and inure to the benefit of the Grantor and the Grantee and their respective heirs, successors, assigns, administrators, and executors.

IT IS UNDERSTOOD AND AGREED that the Easements above described are granted and accepted upon the following terms and conditions:

The TCE granted herein shall automatically terminate, without the necessity of the execution of recording of any other document, upon the completion of the Sewer Improvements and the public dedication of same to the City of Flowery Branch, a municipal corporation of the state of Georgia (the "**City**").

Upon completion of the Sewer Improvements, Grantee may assign its rights hereunder to the City in connection with the public dedication of such Sewer Improvements, and Grantor hereby consents both to such assignment and to such dedication.

The Grantor will make no use of the Easement Area that is inconsistent with the uses and purposes for which the Easements have been granted and shall not interfere with Grantee's use of

the Easement Area in any way, and without limiting the generality of this provision, the Grantor agrees that no permanent structures such as buildings, sheds, and other structures shall be placed upon the Easement Area at any time.

Notwithstanding anything contained herein to the contrary, Grantee hereby indemnifies and shall save and hold Grantor harmless from any injury or loss incurred by the Grantor as a direct result of damage to the Grantor Property caused by the Grantee in the exercise of its rights hereunder; provided that in no case shall Grantee indemnify Grantor, its successors, or assigns for losses arising from Grantor's, its successors' or assigns' negligence or willful misconduct, or for losses arising or incurred due to any hazardous substances or other conditions existing on the Grantor Property prior to the Effective Date and not otherwise directly caused by Grantee.

TO HAVE AND TO HOLD, all and singular, the easement rights and privileges described unto Grantee, its successors and assigns forever.

And the Grantor does hereby bind itself and its heirs, successors, assigns, administrators and executors to warrant and forever defend all and singular the said premises unto Grantee, its successors and assigns against Grantor and Grantor's heirs, successors, assigns, administrators and executors and against every person whomsoever lawfully claiming or to claim the same or any part thereof. The terms of this instrument shall run with title to the Tracts, and shall bind and inure to the benefit of the parties hereto, their respective successors and assigns, and every other person now or hereafter acquiring an interest in or lien upon the Tracts, or any portion thereof.

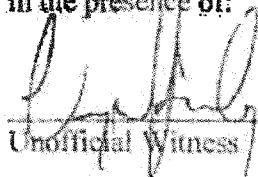
If any covenant or other provision contained in this instrument is to any extent declared by a court of competent jurisdiction to be invalid or unenforceable, the remaining covenants, restrictions, and provisions contained herein (or the application of such covenants and provisions to persons or circumstances other than those in respect of which the determination of invalidity or unenforceability was made) will not be affected thereby and each covenant and provision contained in this instrument will be valid and enforceable to the fullest extent permitted by law.

This instrument may be executed in any number of counterparts, each of which shall be an original but all of which shall constitute one and the same instrument.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, said Grantor has hereunto set its hand and affixed seal, the day and year first above written.

Signed, sealed and delivered
in the presence of:


Unofficial Witness


Notary Public

My commission expires: May 10, 2022

GRANTOR:

Estate of Mary Elizabeth R. Hickman

 (SEAL)
By: Earl L. Hickman
Title: Executor of the Estate of Mary Elizabeth
R. Hickman



[GRANTOR SIGNATURES CONTINUE ON FOLLOWING PAGE]

Signed, sealed and delivered
in the presence of:

GRANTOR:

Louise Harley Hull

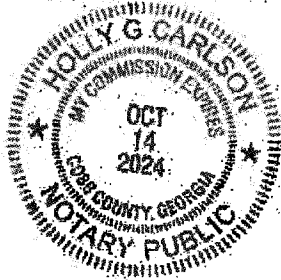
Helen Hull
Unofficial Witness

Louise Harley Hull (SEAL)
LOUISE HARLEY HULL

Molly M. Hull
Notary Public

My commission expires: 10-19-24

[GRANTOR SIGNATURES CONTINUE ON FOLLOWING PAGE]



Signed, sealed and delivered
in the presence of:

GRANTOR:

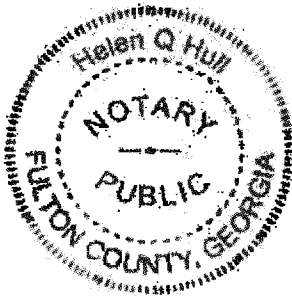
[Signature]
Unofficial Witness

[Signature]
WILLIAM WATT NEAL, JR.

[Signature]
Notary Public

My commission expires: 9.25.2023

[GRANTOR SIGNATURES CONTINUE ON FOLLOWING PAGE]

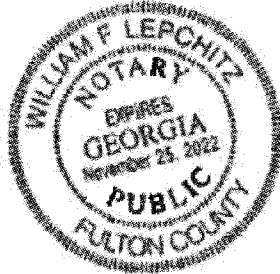


Signed, sealed and delivered
in the presence of:

[Signature]
Unofficial Witness

[Signature]
Notary Public

My commission expires: 11/25/2022



GRANTOR:

Mary E. Roberts, f/k/a Mary Neal

[Signature]
MARY E. ROBERTS, F/K/A MARY NEAL

Exhibit A
EASEMENT AREA

(SEE ATTACHED)

10/10/1945

**A/K/A INTERSTATE 985
LANIER PARKWAY
(PUBLIC, VARIABLE R/W,
LIMITED ACCESS)**



GRID NORTH
GEORGIA WEST ZONE

POC
N.1523126.68
E.2375119.06

N30°50'15"W
274.99'

L1
IPF #4RB

L2

L3

L4

L25

L26

L32

L21

6/95

IPF R/W
WOVEN WIRE FENCE

N/F
MARY ELIZABETH HICKMAN
TAX PARCEL ID: 08097-000005
DB 3543 PG 397

MATCHLINE

POB
40' TEMPORARY
CONSTRUCTION
EASEMENT
N.1522595.83
E.2375115.19

40' TEMPORARY
CONSTRUCTION
EASEMENT
0.184 ACRES
8,023 S.F.

SHEET 1 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE
"WE PROVIDE SOLUTIONS"



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350 RESEARCH COURT, PEACHTREE CORNERS, GEORGIA 30092
770/451-2711 ■ WWW.PECOLL.COM
C.O.A.-US000054

**40' TEMPORARY CONSTRUCTION
EASEMENT EXHIBIT FOR:**

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



IPF RWM

N/F
MARY ELIZABETH HICKMAN
TAX PARCEL ID: 08097-000005
DB 3543 PG 397

MATCHLINE

POB

40' TEMPORARY
CONSTRUCTION
EASEMENT

N.1522595.83

E.2375115.19

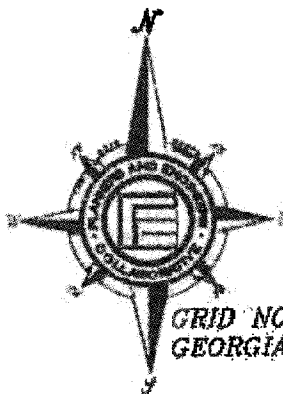
40' TEMPORARY
CONSTRUCTION
EASEMENT

0.184 ACRES

8,023 S.F.

40 foot Temporary Construction
Easement Line Table

Line #	Length	Direction
L1	39.05'	S29° 25' 29"E
L2	20.29'	S29° 25' 29"E
L3	133.75'	S70° 15' 13"W
L4	138.42'	S54° 51' 44"W
L25	134.95'	S28° 50' 35"E
L26	20.00'	N61° 09' 25"E
L27	39.31'	S28° 50' 35"E
L28	261.48'	S19° 38' 53"W
L29	118.78'	S70° 01' 57"W
L30	20.00'	N19° 58' 03"W
L31	109.37'	N70° 01' 57"E
L32	30.31'	S28° 50' 35"E



SHEET 2 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE
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(770) 451-2741 or WWW.PECAL.COM
C.O.A.-USPC00004

**40' TEMPORARY CONSTRUCTION
EASEMENT EXHIBIT FOR:**

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



40' TEMPORARY CONSTRUCTION EASEMENT

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523126.68, E. 2375119.06, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 30 degrees 50 minutes 15 seconds East a distance of 274.99 feet to a #4 rebar found; thence South 29 degrees 25 minutes 29 seconds East a distance of 39.05 feet to a point; thence South 29 degrees 25 minutes 29 seconds East a distance of 20.29 feet to a point; thence South 70 degrees 15 minutes 13 seconds West a distance of 133.75 feet to a point; thence South 54 degrees 51 minutes 44 seconds West a distance of 138.42 feet to a point; thence South 28 degrees 50 minutes 35 seconds East a distance of 134.95 feet to a point (N.1522595.83, E. 2375115.19, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE North 61 degrees 09 minutes 25 seconds East a distance of 20.00 feet to a point; thence South 28 degrees 50 minutes 35 seconds East a distance of 39.31 feet to a point; thence South 19 degrees 38 minutes 53 seconds West a distance of 261.48 feet to a point; thence South 70 degrees 01 minutes 57 seconds West a distance of 118.78 feet to a point; thence North 19 degrees 58 minutes 03 seconds West a distance of 20.00 feet to a point; thence North 70 degrees 01 minutes 57 seconds East a distance of 109.37 feet to a point; thence North 19 degrees 38 minutes 53 seconds East a distance of 243.07 feet to a point; thence North 28 degrees 50 minutes 35 seconds West a distance of 30.31 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 40 foot Temporary Construction Easement having an area of 8,023 square feet, 0.184 acres more or less.

SHEET 9 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE "WE PROVIDE SOLUTIONS"

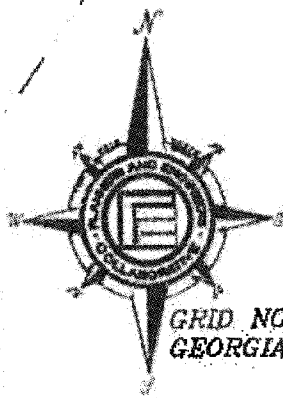


■ SITE PLANNING ■ LANDSCAPE ARCHITECTURE
■ CIVIL ENGINEERING ■ LAND SURVEYING
350 RESEARCH COURT PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2741 ■ WWW.PECOLL.COM
C.O.A. - 15F000004

40' TEMPORARY CONSTRUCTION EASEMENT LEGAL DESCRIPTION FOR:

DRAWN BY: MN WOODFIELD DEVELOPMENT
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'





INTERSTATE 985
A/K/A GEORGIA HIGHWAY 365 &
LANIER PARKWAY
(PUBLIC, VARIABLE R/W,
LIMITED ACCESS)

GRID NORTH
GEORGIA WEST ZONE

IPP R/W
WOODEN WIRE FENCE

20' PERMANENT
SEWER EASEMENT
0.703 ACRES
30,611 S.F.

N/F
MARY ELIZABETH HICKMAN
TAX PARCEL ID: 08097-000005
DB 3543 PG 397

MATCHLINE

SHEET 1 OF 3

POC
N.1523126.68
E.2375119.06

POB
20' PERMANENT
SEWER EASEMENT
N.1522856.56
E.2375279.21

S30°50'15"E
274.99'

L1

L2A

L3

L23

L4

L5

L21

L6

PLANNERS AND ENGINEERS COLLABORATIVE

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■ CIVIL ENGINEERING ■ LAND SURVEYING
350 RESEARCH COURT, PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2741 ■ WWW.PECATLOOM
C.O.A.-13R00004

20' PERMANENT SEWER
EASEMENT EXHIBIT FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18181.01A
DATE: 7/29/20
SCALE: 1"=100'



**INTERSTATE 985
A/K/A GEORGIA
HIGHWAY 365 &
LANIER PARKWAY
(PUBLIC VARIABLE R/W,
LIMITED ACCESS)**

MATCHLINE

**20' PERMANENT
SEWER EASEMENT
0.703 ACRES
30,611 S.F.**

**N/F
MARY ELIZABETH HICKMAN
TAX PARCEL ID: 08097-000005
DB: 3543 PG 397**

20 foot Permanent Sanitary Sewer Easement Line Table		
Line #	Length	Direction
L1	39.05'	S29° 25' 29"E
L2	20.29'	S29° 25' 29"E
L3	133.75'	S70° 15' 13"W
L4	138.42'	S54° 51' 44"W
L5	165.25'	S28° 50' 35"E
L6	243.07'	S19° 38' 53"W
L7	295.53'	S70° 01' 57"W
L8	158.77'	S53° 07' 19"W
L9	220.09'	S47° 07' 41"W
L10	129.08'	S48° 34' 37"W
L11	4.61'	N85° 19' 11"E
L12	20.00'	S4° 40' 49"E
L13	18.77'	S85° 19' 11"W
L14	27.59'	N44° 18' 05"W
L15	153.52'	N48° 34' 37"E
L16	220.89'	N47° 07' 41"E
L17	182.79'	N53° 07' 19"E

L18	16.01'	N53° 07' 19"E
L19	4.87'	S36° 52' 40"E
L20	272.37'	N70° 01' 57"E
L21	224.65'	N19° 38' 53"E
L22	174.16'	N28° 50' 35"W
L23	159.04'	N54° 51' 44"E
L24	133.05'	N70° 15' 13"E

**N/F
BRE DDR BR
STONEBRIDGE GA LLC
TAX PARCEL ID: 08097-000009**



SHEET 2 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE
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■ CIVIL ENGINEERING ■ LAND SURVEYING
300 RESEARCH COURT, PERCHIEVE CORNER, GEORGIA 30092
(770) 451-2741 ■ WWW.PECATL.COM
C.O.A. 137000004

**20' PERMANENT SEWER
EASEMENT EXHIBIT FOR:**

WOODFIELD DEVELOPMENT

**DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18151.01A
DATE: 7/09/20
SCALE: 1"=100'**



20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523126.68, E. 2375119.06, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 30 degrees 50 minutes 15 seconds East a distance of 274.99 feet to a #4 rebar found; thence South 29 degrees 25 minutes 29 seconds East a distance of 39.05 feet to a point (N.1522856.56, E. 2375279.21, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE South 29 degrees 25 minutes 29 seconds East a distance of 20.29 feet to a point;
thence South 70 degrees 15 minutes 13 seconds West a distance of 133.75 feet to a point;
thence South 54 degrees 51 minutes 44 seconds West a distance of 138.42 feet to a point;
thence South 28 degrees 50 minutes 35 seconds East a distance of 165.25 feet to a point;
thence South 19 degrees 38 minutes 53 seconds West a distance of 243.07 feet to a point;
thence South 70 degrees 01 minutes 57 seconds West a distance of 295.53 feet to a point;
thence South 53 degrees 07 minutes 19 seconds West a distance of 158.77 feet to a point;
thence South 47 degrees 07 minutes 41 seconds West a distance of 220.09 feet to a point;
thence South 48 degrees 34 minutes 37 seconds West a distance of 129.08 feet to a point;
thence North 85 degrees 19 minutes 11 seconds East a distance of 4.61 feet to a point;
thence South 04 degrees 40 minutes 49 seconds East a distance of 20.00 feet to a point;
thence South 85 degrees 19 minutes 11 seconds West a distance of 18.77 feet to a point;
thence North 44 degrees 18 minutes 05 seconds West a distance of 27.59 feet to a point;
thence North 48 degrees 34 minutes 37 seconds East a distance of 153.52 feet to a point;
thence North 47 degrees 07 minutes 41 seconds East a distance of 220.89 feet to a point;
thence North 53 degrees 07 minutes 19 seconds East a distance of 162.79 feet to a point;
thence North 53 degrees 07 minutes 19 seconds East a distance of 16.01 feet to a point;
thence South 36 degrees 52 minutes 41 seconds East a distance of 4.87 feet to a point;
thence North 70 degrees 01 minutes 57 seconds East a distance of 272.37 feet to a point;
thence North 19 degrees 38 minutes 53 seconds East a distance of 224.65 feet to a point;
thence North 28 degrees 50 minutes 35 seconds West a distance of 174.16 feet to a point;
thence North 54 degrees 51 minutes 44 seconds East a distance of 159.04 feet to a point;
thence North 70 degrees 15 minutes 13 seconds East a distance of 133.05 feet to a point,
said point is the TRUE POINT OF BEGINNING.

Said 20 foot Permanent Sewer Easement having an area of 30,611 square feet, 0.703 acres more or less

SHEET 3 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE

"WE PROVIDE SOLUTIONS"



■ SITE PLANNING ■ LANDSCAPE ARCHITECTURE
■ CIVIL ENGINEERING ■ LAND SURVEYING
350 RESEARCH COURT PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2741 ■ WWW.PECAL.COM
C.O.A. - LS0000004

20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: JMN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



AFFIDAVIT OF MARY ELIZABETH ROBERTS

This Affidavit (this "Affidavit") is made as of the date set forth below by Mary Elizabeth Roberts, f/k/a Mary Neal, an individual resident of Hall County, Georgia (the "Undersigned"). The Undersigned hereby certifies for the benefit of Chicago Title Insurance Company as follows:

1. The Undersigned is not the party identified as "Mary E. Dine-Neal" in the Notice of Federal Tax Lien dated December 6, 2011, recorded December 14, 2011 in Lien Book 387, Page 314 in the records of the Clerk of Superior Court of Hall County, Georgia, attached as Exhibit A hereto.

2. The Undersigned owns and permanently resides at the residence located at 11 Bohler Manor Rd [street address] in Hall County [state], and has owned and permanently resided at such property since 2012 [year].

[SEE ATTACHED SIGNATURE PAGE]

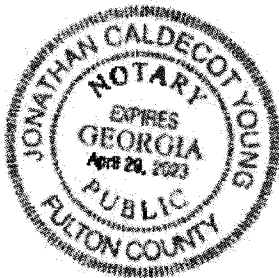
Dated: August 7, 2020.

By: Mary Elizabeth Roberts
MARY ELIZABETH ROBERTS

STATE OF Georgia
COUNTY OF Fulton

I, Jonathan Caldecot Young, a Notary Public for said County and State, do hereby certify that Mary Elizabeth Roberts either being personally known to me or proven by satisfactory evidence (said evidence being Durston), personally appeared before me this day, and acknowledged the voluntary due execution of the foregoing instrument by him for the purposes stated therein. Witness my hand and notarial seal, this 7 day of August, 2020.

[SEAL]



Notary Public

Printed Name: Jonathan Caldecot Young

My Commission Expires 4/20/23

00387
00314

3351 Department of the Treasury - Internal Revenue Service
Form 668 (Y)(c)
(Rev. February 2004) **Notice of Federal Tax Lien** BK 387
000314

Area: SMALL BUSINESS/SELF EMPLOYED AREA #5 Serial Number 834381311
Lien Unit Phone: (800) 829-3993

As provided by section 6321, 6322, and 6323 of the Internal Revenue Code, we are giving a notice that taxes (including interest and penalties) have been assessed against the following named taxpayer. We have made a demand for payment of this liability, but it remains unpaid. Therefore, there is a lien in favor of the United States on all property and rights to property belonging to this taxpayer for the amount of these taxes, and additional penalties, interest, and costs that may accrue.

Name of Taxpayer WILLIAM J NEALIS & MARY E DINE-NEAL

Residence 3039 DALE RD
GAINESVILLE, GA 30507-8102

IMPORTANT RELEASE INFORMATION: For each assessment listed below, unless notice of the lien is refiled by the date given in column (d), this notice shall, on the day following such date, operate as a certificate of release as defined in IRC 6325(a).

Kind of Tax (a)	Tax Period Ending (b)	Identifying Number (c)	Date of Assessment (d)	Last Day for Refiling (e)	Unpaid Balance of Assessment (f)
1040	12/31/2000	XXX-XX-9367	04/11/2011	05/11/2021	7413.64
1040	12/31/2001	XXX-XX-9367	05/23/2011	06/22/2021	9781.56
1040	12/31/2002	XXX-XX-9367	04/11/2011	05/11/2021	5331.02
1040	12/31/2003	XXX-XX-9367	08/21/2006	09/20/2016	161.31
1040	12/31/2004	XXX-XX-9367	04/18/2011	05/18/2021	9791.17
1040	12/31/2006	XXX-XX-9367	04/04/2011	05/04/2021	4207.25
1040	12/31/2007	XXX-XX-9367	04/18/2011	05/18/2021	7715.44
1040	12/31/2008	XXX-XX-9367	03/07/2011	04/06/2021	18440.50
1040	12/31/2009	XXX-XX-9367	03/07/2011	04/06/2021	2335.53

Place of Filing Clerk of Superior Court
Hall County
Gainesville, GA 30503
Total \$ 65167.42

This notice was prepared and signed at NASHVILLE, TN on this,

the 06th day of December, 2011.

021993

Signature for FRED BANKS
Title ACS SBSE
(800) 829-3993
25-00-0000

(NOTE: Certificate of officer authorized by law to take acknowledgment is not essential to the validity of Notice of Federal Tax Lien
Rev. RUL. 71-455, 1971-2 C.B. 409)

Part 1 - Kept By Recording Office

Form 668(Y)(c) (Rev. 2-2004)
CAT. NO 60029X

FILED
HALL CO, GA
11 DEC 14 PM 12:25
CHARLES BAKER, CLERK
SUPERIOR STATE COURT
BY: CB

EXHIBIT D

033796

Mail- Mr. Daniel R. Murphy
Harben & Hartley
P.O. Box 2975
Gainesville, Ga 30503

SEWER SYSTEM FACILITIES DEDICATION

000547

GEORGIA, HALL COUNTY

This conveyance executed this 9th day of October, 2000 for and in consideration of ten (\$10.00) dollars in hand paid, receipt of which is acknowledged, the undersigned does hereby grant, sell and convey unto the City of Flowery Branch, Georgia, forever all pump stations, sanitary sewers lines, perpetual easements for same, and appurtenances shown across and through the land indicated on the plat attached hereto as Exhibit A. Said land is indicated in Deed Book 3067, Pages 223-227; Deed Book 3183, Pages 258-262; and Deed Book 3420, Page 464, in the Superior Court of Hall County in Gainesville, Georgia. Said easements being on the lands of grantor and extending a distance of 10 feet on either and both sides of the centerline of sewer line and pump station or as otherwise shown on Exhibit A.

The Grantee shall have the right of ingress and egress on said lands for the purpose of maintaining said sewer system facilities and shall exercise reasonable diligence in doing necessary work in connection therewith so as to avoid damaging the property.

IN WITNESS WHEREOF, the undersigned Grantee hereto set his/her hand and seal the day and year above written.

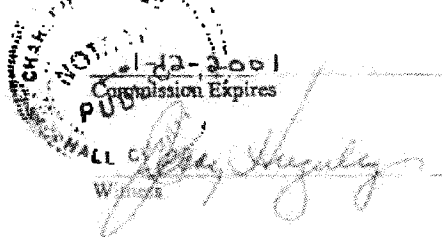
Signed, Sealed and Delivered
In the Presence of:

Chasem Young
Notary Public

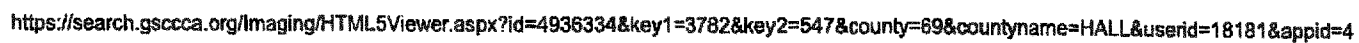
HALL COUNTY SCHOOL DISTRICT

Bill L. Higgins
Chairman, Hall County Board of Education

Dwight S. Wood
Superintendent and Ex-Officio Secretary
Hall County Board of Education



Georgia, Hall County Clerk Superior Court
Filed in office, this 11 day of Dec.
20 00 at 11:15 a.m. Recorded in
Book 3183 Page(s) 547-548
this 12 day of Dec., 2000
DWIGHT S. WOOD, CLERK, by: 31442



UPON RECORDING RETURN TO:
Troutman Pepper Hamilton Sanders LLP
600 Peachtree Street, N.E.
Suite 3000
Atlanta, Georgia 30308
Attention: David C. Kirk

eFiled and eRecorded
DATE: 04/27/2022
TIME: 10:46 AM
DEED BOOK: 9113
PAGE: 627 - 633
FILING FEES: \$25.00
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 9581057022
RECORDED BY: EAR
CLERK: Charles Baker, C.S.C
Hall County, GA

STATE OF GEORGIA

COUNTY OF HALL

CITY OF FLOWERY BRANCH
UNIFORM DEED OF CONSERVATION AND TRAIL EASEMENT

THIS INDENTURE, made the 25th day of February in the year two thousand and twenty two (20 22), between FLOWERY BRANCH APARTMENTS OWNER, LLC, a Delaware limited liability company, whose address is P.O. Box 1127, Isle of Palms, South Carolina 29451, as party or parties of the first part (hereinafter called "Grantor"), and the CITY OF FLOWERY BRANCH, a Georgia Municipal Corporation, as party or parties of the second part (hereinafter called "Grantee") (the words "Grantor" and "Grantee" to include their respective successors and assigns where the context requires or permits).

WITNESSETH:

WHEREAS, Grantee herein participated in preparing a plan published by the Gainesville-Hall Metropolitan Planning Organization in February 2019 for the development of a series of trails, paths, and walkways throughout South Hall County, including portions of the City of Flowery Branch (hereinafter called the "South Hall Trail Study"); and

WHEREAS, Grantor is the owner of all that tract or parcel of land lying and being in Land Lot 97 of the 8th Land District of Hall County, Georgia, being more particularly depicted on the

Survey contained in Exhibit "A" attached hereto and incorporated herein by this reference (hereinafter called the "Easement Property"); and

WHEREAS, Grantor desires to grant to Grantee a Conservation and Trail Easement in and to the Easement Property to permit the Easement Property to be utilized as a portion of the Grantee's public trail and park system; and

WHEREAS, Grantee is a governmental body empowered to hold an interest in real property under the laws of the State of Georgia; and

WHEREAS, Grantee is a "qualified organization" within the meaning of Section 170(h)(3) of the Internal Revenue Code of 1986, as amended (the "Code"), as defined by Clause (v) of Section 170(b)(1)(A), and Section 170(c)(1); and

WHEREAS, Grantee is a qualified "holder" within the meaning of Official Code of Georgia Annotated Section 44-10-2(2)(A); and

WHEREAS, Grantee, by recording this Deed of Conservation and Trail Easement accepts the grant and dedication of the Easement Property under the terms hereinafter specified.

NOW, THEREFORE, in consideration of Ten Dollars (\$10.00) and other valuable consideration, Grantor has donated, granted, remised, released, and conveyed, and by these presents does hereby donate, grant, remise, release, and convey unto Grantee a perpetual Conservation and Trail Easement in, to and through the Easement Property described in Exhibit "A," subject to the following terms, conditions, restrictions, and reservations:

(a) The Easement Property shall be used for conservation and public recreation purposes and uses only, including, without limitation, walking, hiking, jogging, bicycle riding, bird watching, picnicking, nature studies, and environmental education activities. Members of the general public shall have free access and use of the Easement Property for the purposes herein specified, subject to the laws and ordinances of Grantee and Grantee's plan for the South Hall Trail System; provided, this instrument shall not be construed to permit the City or the public at large to access any property of the Grantor other than the Easement Property; and provided further, this Conservation and Trail Easement is granted subject to all general utility, sewer, drainage, and other easements, restrictions, and encumbrances of record affecting the Easement Property now and in the future.

(b) Grantee shall have the right to construct and install within the Easement Property, trails or multi-use paths of either pervious or impervious surfaces, paths, and walkways, together with directional and instructive signs, trail markers, litter receptacles, gates, trail bridges, shelters, boardwalks, exercise stations, restroom facilities, utilities, lights, sewerage easements, vehicular access for construction and maintenance purposes, parking facilities, stream bank reclamation and any other modifications, in Grantee's sole discretion, necessary to improve the environment and trail system, and other convenience facilities consistent with Grantee's plan for the South Hall Trail System. Notwithstanding the foregoing, Grantor and Grantee acknowledge and agree that the Easement Property as currently described is an approximately 4-acre property, to the northwest

of and commencing at the centerline of an unnamed creek, of which the parties hereto intend that the Grantee will use for the location of a trail, and that before Grantee commences any of the work or improvements in the Easement Property described above in this subsection (b), including without limitation the construction of any trail or multi-use path, Grantee shall have the Survey updated by a Surveyor reasonably satisfactory to Grantor, to provide a metes and bounds legal description of the approximately twenty-foot (20') wide strip of land within the Easement Property to be utilized by Grantee for the location of a trail or multi-use path.

(c) Grantee shall have the sole right and responsibility to control, operate, and maintain any trail or multi-use path it constructs or shall cause to be constructed within the Easement Property. To the extent allowed by law, Grantee agrees to hold Grantor harmless from liability for personal injury or property damage arising out of the use of the Easement Property for conservation and trail system purposes; provided, however, this paragraph shall not be construed as a waiver of Grantee's sovereign immunity or waiver of any defense to or any law limiting the liability of either Grantor or Grantee, including but not limited to Official Code of Georgia Annotated Title 51, Chapter 3, Article 2, and Title 44, Chapter 10, Articles 1 and 2, and their respective subsections, and shall not be deemed to create rights upon which any third party may rely; and provided, further, Grantor shall not be held harmless from liability caused by the active conduct or instrumentalities of Grantor, its agents, invitees, or contractors; or by acts of Grantor, its agents, invitees, or contractors which violate the terms and conditions of this Conservation and Trail Easement or for the willful or malicious failure to guard or warn against a dangerous condition, use, structure, or activity.

(d) Grantor and Grantee acknowledge and agree that Grantor retains and owns certain additional property comprising approximately 28.5 acres in Land Lots 96 and 97 of the 8th Land District of Hall County, Georgia, (hereinafter called the "Retained Property") located immediately southeast of and adjacent to the Easement Property. Together, the Easement Property and Retained Property constitute an approximately 32.5-acre tract of land referred to herein as the "Property." Both the Retained Property and Property are more particularly depicted on the Survey contained in Exhibit "A" attached hereto and incorporated herein by this reference. The full acreage of the Property shall be used for purposes of calculating the maximum density of residential development and maximum lot coverage that may occur on the Retained Property.

(e) For the benefit of Grantor and its successors and assigns and the Retained Property, as well as adjacent properties, Grantor hereby reserves the right to continue to use the Easement Property for all purposes not inconsistent with this Conservation and Trail Easement and Grantee's operation of any trail or multi-use path it constructs or shall cause to be constructed within the Easement Property, including but not limited to the construction of a gravity flow sanitary sewer line traversing the Easement Property in a generally northeast to southwest direction and the construction of trail and bridge connections to any multi-use path or trail on the Easement Property from the Retained Property.

(f) The general purpose of this Conservation and Trail Easement is to assure that in the future there is property that retains its present natural, scenic, aesthetic, watershed, wildlife, forest, and habitat condition, and is accessible to members of the general public for recreational and education purposes. Grantee shall have the right to cut trees, grade, and when necessary construct

roads for construction and maintenance of the Easement Property. In all such activities Grantee will attempt to preserve the natural habitat of the Easement Property. Neither Grantor nor Grantee shall have the right to mine the surface or subsurface of the Easement Property in compliance with Code Section 170(h)(5)(B).

(g) The construction of the South Hall Trail System and any and all features thereof, including utilities, pathways, bridges, and other amenities shall be constructed and maintained by Grantee at no cost to Grantor.

(h) The Conservation and Trail Easement may be connected to contiguous portions of the South Hall Trail System that are located on property adjacent to the Easement Property.

(i) No representation is made by Grantee as to the tax implications to Grantor of this transaction.

(j) The covenants, terms, and conditions, and restrictions of this Conservation and Trail Easement shall be binding upon and shall inure to the benefit of, the parties hereto and their respective heirs, executors, administrators, personal representatives, successors and assigns, and shall continue as an easement and servitude running with the Easement Property in perpetuity and enforceable against Grantor and all present and future owners, tenants, and other holders of any interest in the Easement Property.

(k) Nothing contained herein will result in a forfeiture or reversion of Grantor's title, in any respect, and any condition, restriction or other matter contained herein shall be construed as a covenant.

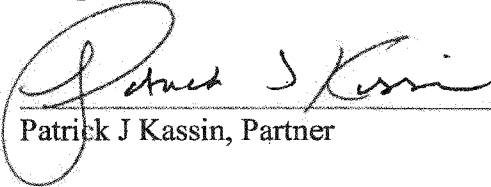
[Signatures follow on the next page.]

IN WITNESS WHEREOF, the Grantor has signed and sealed this Deed of Conservation and Trail Easement, the day and year above written.

Signed, sealed and delivered in the presence of:

GRANTOR

**FLOWERY BRANCH APARTMENTS
OWNER, LLC, a Delaware limited liability
company**


Patrick J Kasson, Partner

ATTEST: _____

(corporate seal)

_____, Secretary

Witness




NOTARY PUBLIC

CHERE A RUCKER
NOTARY PUBLIC
Hall County
State of Georgia
My Comm. Expires August 13, 2024

GRANTEE

CITY OF FLOWERY BRANCH, GEORGIA


Edward R Asbridge, Mayor

ATTEST: 
City Clerk

APPROVED AS TO FORM:

BY: 
City Attorney

DATE: 2/25/2022

EXHIBIT A

DEPICTION OF PROPERTY, EASEMENT PROPERTY, AND RETAINED PROPERTY

**FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY**

SUBJECT: WOODFIELD APARTMENTS ESTOPPEL AGREEMENT

DATE: JULY 21, 2022

(x) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- \$0

() OTHER

CAPITAL- \$0

COUNCIL ACTION REQUESTED ON: JULY 21, 2022

PURPOSE: Consider approving an estoppel agreement in connection with the sale of the Woodfield apartment complex development.

HISTORY: Flowery Branch Apartments Owner, LLC (“Woodfield”) is currently developing an apartment complex located on a portion of 4496 Hog Mountain Road per the land use authorized by Ordinance No. 582, which is attached. Condition No. 6 of this rezoning ordinance required Woodfield to execute and provide the City with a Uniform Deed of Conservation and Trail Easement covering the back part of the subject parcel along I-985. As a condition to connect to sewer, Woodfield also entered into the attached sewer development agreement and amendment.

FACTS AND ISSUES: Woodfield has notified the City that it intends to sell its apartment complex development to Starlight Investments Acquisition, LLC (“Folksong”). As part of its due diligence, Folksong is requesting the City agree that Woodfield has to date complied with conservation and trail easement rezoning condition and certain terms of the sewer development agreement by approving and signing the attached Estoppel Agreement. An estoppel agreement such as this is common in real estate transactions. Its purpose is for a third party (City) to confirm to the buyer (Folksong) that the seller’s representations (Woodfield) are true.

The rezoning condition has been met as shown by the attached recorded Uniform Deed of Conservation and Trail Easement.

The Estoppel Agreement asks the City to agree to the following:

- a. The construction by the Existing Owner of the Connection Project has been completed in full accordance and satisfaction with the Sewer Agreement;
 - b. The City issued the certification of completeness of the Connection Project on July 15, 2022, and accordingly, Section VIII of the Sewer Agreement requires
-

the Existing Owner to escrow the Developer's Escrow Contribution in accordance with the terms and provisions thereof on or before July 29, 2022;

- c. The Existing Owner has provided the City with all of the necessary Design Documents, as and when required under the Sewer Agreement; and
- d. The Existing Owner has paid all sums of the Developer's Cash Contribution to the City, as and when required under the Sewer Agreement.

Per the City Manager and/or City Water and Sewer Engineer, these four events have occurred.

Given that Woodfield and/or the City have signed and recorded a Uniform Deed of Conservation and Trail Easement as well as complied with the particular provisions of the sewer development agreement identified in the Estoppel Agreement, staff recommends the city council approve the Estoppel Agreement.

OPTION(S): As all obligations as outlined in the Estoppel Agreement have been met, approve the Estoppel Agreement as presented.

RECOMMENDED SAMPLE MOTION: I make a motion to approve the Estoppel Agreement regarding the Woodfield apartment complex sale as presented.

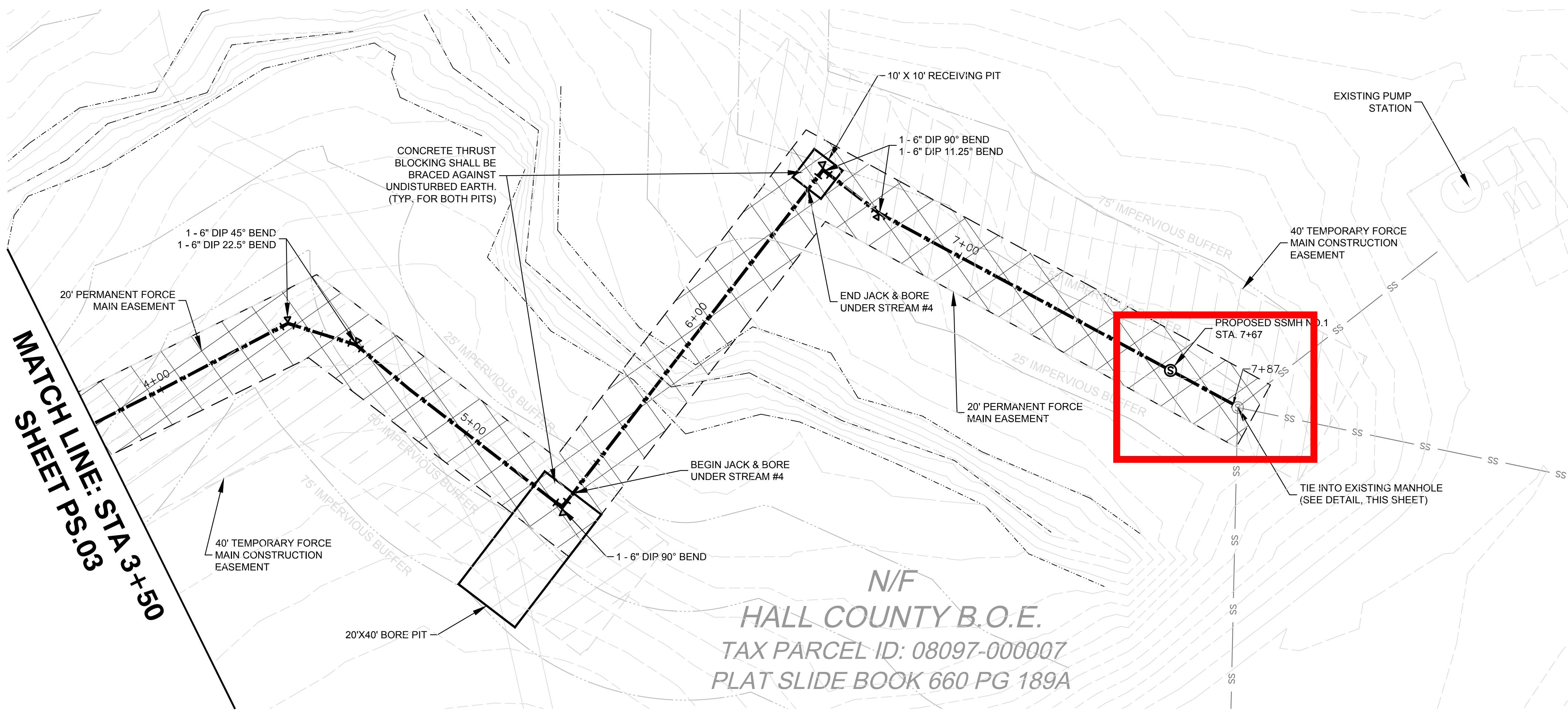
ATTACHMENTS:

- (1) Woodfield Rezoning Ordinance No. 582
- (2) Sewer Connection Development Agreement
- (3) First Amendment to the Sewer Connection Development Agreement
- (4) Proposed Estoppel Agreement
- (5) Recorded Uniform Deed of Conservation and Trail Easement

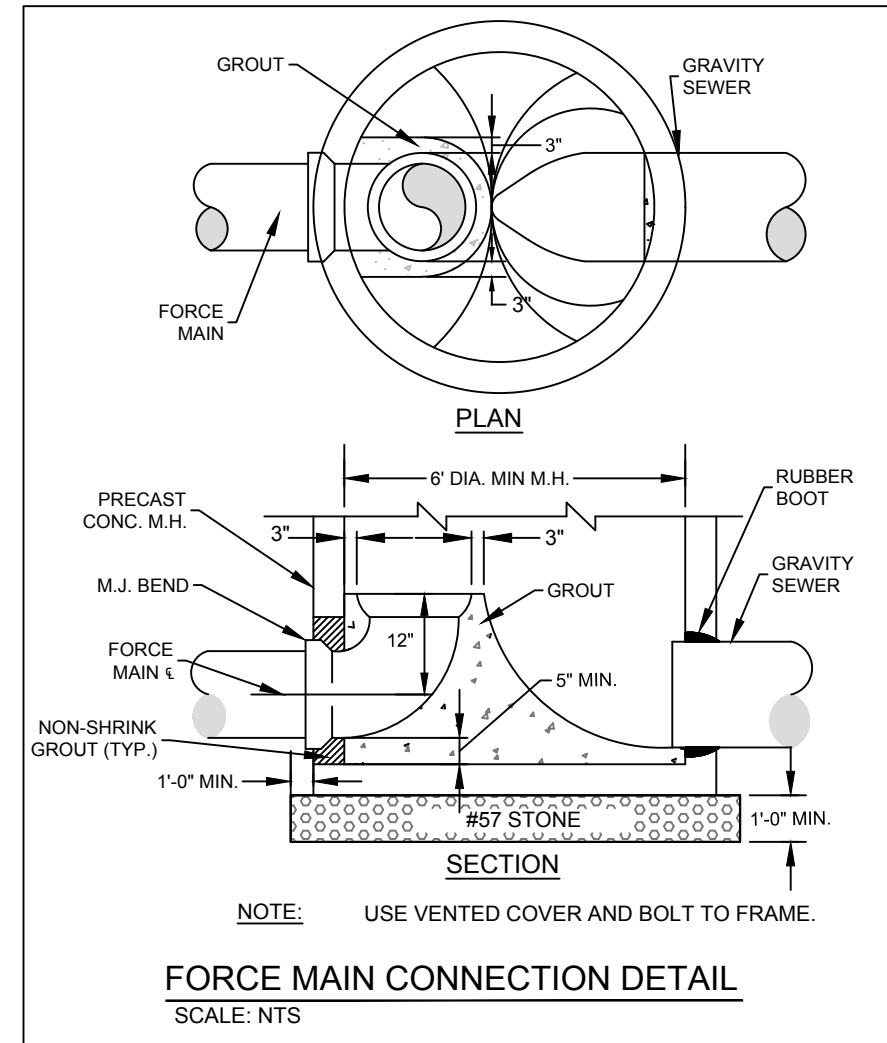
DEPARTMENT: Legal

Prepared by: E. Ronald Bennett, Jr.

THESE DRAWINGS ARE PROTECTED BY FEDERAL COPYRIGHT PROTECTION. UNAUTHORIZED USE OF THESE DRAWINGS, INCLUDING ANY REPRODUCTION OR COPY OF IT, WHETHER IN WHOLE OR IN PART, MAY RESULT IN AN INFRINGEMENT ACTION.
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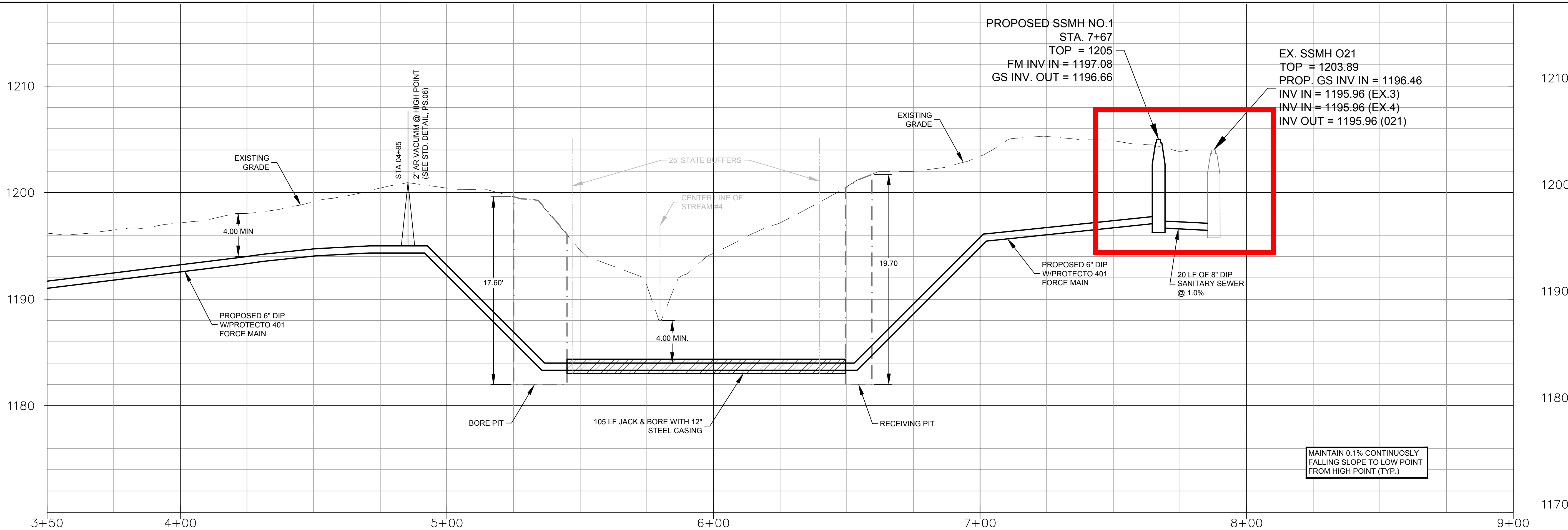
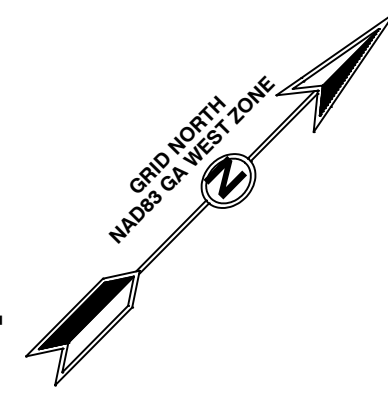


LEGEND	
-O-	UTILITY POLE (UP)
NG	NATURAL GAS
DI	DROP INLET
JB	JUNCTION BOX
OCS	OUTLET CONTROL STRUCTURE
SWCB	SINGLE WING CATCH BASIN
HW	HEADWALL
RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE
HDPE	HIGH DENSITY POLYETHYLENE
UGD	UNDERGROUND DETENTION
DWCB	DOUBLE WING CATCH BASIN
EX	EXISTING
PROP.	PROPOSED
W.E.	WATER EASEMENT
PH	FIRE HYDRANT
WM	WATER METER
S.S.E.	SANITARY SEWER EASEMENT
LF	LINEAR FEET
DIP	DUCTILE IRON PIPE
PVC	POLYVINYL CHLORIDE
SS	SANITARY SEWER
C&G	CURB AND GUTTER
IP	IRON PIN
IPF	IRON PIN FOUND
P/L	PROPERTY LINE
F.E.S.S.	FLARED END SAFETY SECTION
SSMH	SANITARY SEWER MANHOLE
SSCO	SANITARY SEWER CLEANOUT
PT	POINT OF TANGENT
PC	POINT OF CURVATURE
OCS	OUTLET CONTROL STRUCTURE
ELEV	ELEVATION
N/F	NOW OR FORMERLY
R/W	RIGHT OF WAY
LLL	LAND LOT LINE
CONC	CONCRETE
INV	INVERT
EOP	EDGE OF PAVEMENT
TYP.	TYPICAL
BOV	BLOW OFF VALVE
GV	GATE VALVE



PLAN VIEW

Scale: 1" = 20'



PROFILE

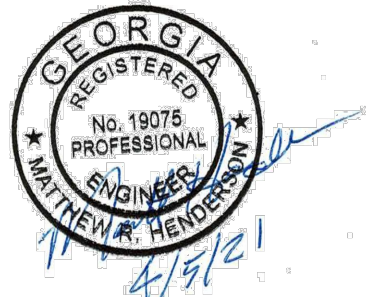
Horizontal Scale: 1" = 20'

Vertical Scale: 1" = 10'

IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



HENDERSON ENGINEERING
147 TIMBER OAK LANE
DAHLONEGA, GEORGIA 30533
T: 706.864.7252
M: 770.401.6197



REVISION	DATE	DESCRIPTION
1	04-05-21	PERMITTING SET
	04-26-21	BID READY SET

FORCE MAIN PLAN & PROFILE
HOG MOUNTAIN PUMP STATION
& FORCE MAIN
CITY OF FLOWERY BRANCH
HALL COUNTY, GEORGIA

DRAWN BY:	Ach
DESIGNED BY:	MRH
DATE:	04-05-21
CHECKED BY:	MRH

SHEET NO.

PS.04

PROJECT NO.

HE2021-16

Cross Reference: DB 9087 P 613 – 656

**UPON RECORDING RETURN TO:
Troutman Pepper Hamilton Sanders, LLP
600 Peachtree Street, N.E.
Suite 3000
Atlanta, Georgia 30308
Attn: David C. Kirk**

STATE OF GEORGIA

COUNTY OF HALL

**FIRST AMENDMENT TO THE AGREEMENT
BY AND BETWEEN FLOWERY BRANCH APARTMENTS OWNER, LLC
AND THE CITY OF FLOWERY BRANCH, GEORGIA
FOR ACCESS TO AND MAINTENANCE OF THE SANITARY SEWER SYSTEM**

THIS FIRST AMENDMENT TO THE AGREEMENT (AMENDMENT), is made and entered into effective the ____ day of June 2022, by and between Flowery Branch Apartments Owners, LLC, a Delaware limited liability company, located at 8210 Creedmoor Road, Suite 103, Raleigh, North Carolina 27613, (“DEVELOPER”) and the City of Flowery Branch, Georgia, a Georgia municipal corporation, located at 5410 Pine Street, Flowery Branch, Georgia 30542 (“CITY”).

WHEREAS, DEVELOPER and CITY entered into that certain agreement dated March 22, 2022, 2015 (“ORIGINAL AGREEMENT”) for access to and maintenance of the sanitary sewer system; and

WHEREAS, DEVELOPER and CITY desire to amend the ORIGINAL AGREEMENT, on and subject to the terms and conditions set forth herein.

NOW, THEREFORE, DEVELOPER and CITY agree to amend the ORIGINAL AGREEMENT as follows:

1. Recitals. Each of the foregoing recitals and representations in this Amendment form a material part of this AMENDMENT and are incorporated herein by this reference, and such recitals and representations and the ORIGINAL AGREEMENT are hereby ratified.
2. Paragraph XI. Paragraph XI of the ORIGINAL AGREEMENT is deleted in its entirety and replaced by the following:

“XI. Within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY’s sewer system as described in Paragraph VI of this AGREEMENT, the CITY shall have the right to direct DEVELOPER in writing to install ten (10) foot extensions to raise the height, at DEVELOPER’S expense, of the two manholes shown within the red box on Exhibit E, which is attached hereto and incorporated by reference herein. Upon receipt of such written direction from the CITY, DEVELOPER shall have an additional ninety (90) days to construct/install the manhole extensions, at which time DEVELOPER shall be relieved of any obligations contained in Paragraphs XI and X of this AGREEMENT. Should CITY not exercise its right under this Paragraph XI within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY’s sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER shall have no obligation to raise said manholes.”

EXCEPT AS HEREIN PROVIDED, all other terms and conditions of the ORIGINAL AGREEMENT shall remain the same and the parties hereto do hereby ratify the ORIGINAL AGREEMENT.

IN WITNESS WHEREOF, DEVELOPER and CITY have carefully read and reviewed this AMENDMENT and each term and provision contained herein, and by the execution of this AMENDMENT shows their informed and voluntary consent thereto.

THIS _____ DAY OF JUNE, 2022.

FLOWERY BANCH APARTMENTS OWNER, LLC,
by FLOWERY BRANCH VENTURE, LLP, a
Delaware limited liability partnership and sole manager
of FLOWERY BRANCH APARTMENTS OWNER,
LLC

By: Patrick J. Kassin
Title: _____

Sworn to and subscribed before me
this _____ day of June, 2022.

NOTARY PUBLIC

My commission expires: _____

Signatures Continued Next Page

CITY OF FLOWERY BRANCH, GEORGIA

By: Edward R. Asbridge, Mayor

ATTEST:

Shelia Cooper, City Clerk

EXHIBIT E

ESTOPPEL

THIS ESTOPPEL is made as of the _____ day of July 2022, is agreed to by the undersigned with respect to the following agreements (the “**City Agreements**”):

- A. City of Flowery Branch Uniform Deed of Conservation and Trail Easement dated February 25, 2022 by and between Flowery Branch Apartments Owner, LLC, a Delaware limited liability company (the “**Existing Owner**”) and the City of Flowery Branch, Georgia, a Georgia municipal corporation (the “**City**”) recorded April 27, 2022 in Deed Book 9113, Page 627, Hall County, Georgia records (the “**Trail Easement**”); and
- B. Agreement dated March 22, 2022 by and between the Existing Owner and the City, recorded March 23, 2022 in Deed Book 9087, Page 613, Hall County, Georgia records, as amended by that certain First Amendment to the Agreement By and Between Existing Owner and the City for Access to and Maintenance of the Sanitary Sewer System dated July 21, 2022. (the “**Sewer Agreement**”)

WHEREAS, Existing Owner owns that certain property located at 4496 Hog Mountain Road, City of Flowery Branch, Georgia (the “**Property**”), which Property is burdened by the City Agreements. The undersigned understands and acknowledges that Starlight Investments Acquisition LLC, a Delaware limited liability company (together with its affiliates, successors and/or assigns, “**Purchaser**”) is in negotiations to acquire the fee simple title interest in the Property pursuant to a purchase and sale agreement by and between Existing Owner and the Purchaser and that this estoppel certificate is being made in connection with the proposed acquisition by Purchaser.

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned party hereby certifies to Purchaser that, as of the date hereof:

- 1. The City Agreements are full force and effect, have not been modified or supplemented, and are binding upon the parties thereto.
- 2. No default, breach or uncured violation on the part of the undersigned or the Existing Owner exists under the City Agreements, and no facts or circumstances exist that, with the passage of time or giving of notice, will or could constitute a default, event of default, or breach by the undersigned or the Existing Owner under the City Agreements. Neither the undersigned nor, to the undersigned’s knowledge, the Existing Owner has given or received any notice of default under the City Agreements, which has not been revoked, cured or waived.
- 3. There are no liens against the Property currently being threatened or asserted by the City pursuant to the City Agreements.

Estoppel
(Flowery Branch, GA)

4. All charges, security, bonds, and other payments required by the City Agreements, if any, have been paid, posted, or otherwise satisfied in accordance with the terms thereof.

5. There are no pending or, to the knowledge of the undersigned, threatened, actions, suits, claims, or adverse proceedings of any kind with respect to the City Agreements and/or the enforcement thereof, except as described below:

6. With respect to the Sewer Agreement:

- a. The construction by the Existing Owner of the Connection Project has been completed in full accordance and satisfaction with the Sewer Agreement;
- b. The City issued the certification of completeness of the Connection Project on July 15, 2022, and accordingly, Section VIII of the Sewer Agreement requires the Existing Owner to escrow the Developer's Escrow Contribution in accordance with the terms and provisions thereof on or before July 29, 2022;
- c. The Existing Owner has provided the City with all of the necessary Design Documents, as and when required under the Sewer Agreement; and
- d. The Existing Owner has paid all sums of the Developer's Cash Contribution to the City, as and when required under the Sewer Agreement.

Capitalized terms not defined in this Section 6 shall have the meaning set forth in the Sewer Agreement.

7. The undersigned representative is duly authorized and fully qualified to execute this certificate.

8. The undersigned acknowledges and agrees that this certificate is delivered for the benefit of Purchaser, any lender providing financing to with respect to the Property, and any title company issuing title insurance with respect to the Property, and each such parties' successors and/or assigns, and each such party is relying, and each may rely, on the undersigned's certifications set forth herein.

[Remainder of this page intentionally left blank. Signature page to follow.]

IN WITNESS WHEREOF, the undersigned has executed this instrument as the date first set-forth-above.

CITY OF FLOWERY BRANCH, GEORGIA

By: _____

Name: _____

Its: _____



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Lease Commission Agreement with Century 21 Connect Realty

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The purpose of this agenda item is to request execution of a lease commission agreement with Century 21 Connect Realty as the broker of El Sabor Costeno for the lease of Suite 101 at 5519 Main Street in Flowery Branch, within the Shopping Center on Main Street.

FACTS AND ISSUES:

El Sabor used Century 21 Connect Realty as their broker to find a spot for their restaurant. The listing agreement with Oakhurst Realty noted that the City of Flowery Branch would be responsible for paying the broker's tenant a commission. Three per cent is the customary amount for the commission. Per the signed listing agreement, fifty percent is due now and, "fifty percent (50%) upon the earlier of (i) the rent commencement or (ii) tenant opening for business."

OPTIONS:

- 1) Authorize execution of the lease agreement as presented.
- 2) Do not authorize execution of the lease agreement.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$5,193.36 - General Fund

RECOMMENDATION:

Execute the lease commission agreement with Century 21 Connect Realty.

SAMPLE MOTION:

I move that the city execute the lease commission agreement with Century 21 Connect Realty.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary - Century 21 commission agreement.pdf](#)
- [Commercial Lease Commission Agreement3.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: LEASE COMMISSION AGREEMENT WITH CENTURY 21 CONNECT REALTY

DATE: JULY 21, 2022

BUDGET INFORMATION:
ANNUAL- \$5,193.36
CAPITAL-

☒ **RECOMMENDATION**
☐ **POLICY DISCUSSION**
☐ **STATUS REPORT**
☐ **OTHER**

COUNCIL ACTION REQUESTED ON: JULY 21, 2022

PURPOSE: The purpose of this agenda item is to request execution of a lease commission agreement with Century 21 Connect Realty as the broker of El Sabor Costeno for the lease of Suite 101 at 5519 Main Street in Flowery Branch, within the Shopping Center on Main Street.

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OPTIONS: 1) Authorize execution of the lease agreement as presented.
2) Do not authorize execution of the lease agreement.

RECOMMENDED SAMPLE MOTION: I move that the city execute the lease commission agreement with Century 21 Connect Realty.

DEPARTMENT: Administration

Prepared by: Tonya Parrish

THIS LEASE COMMISSION AGREEMENT (this "Agreement") dated 8/4/2022 (the "Effective Date") by and between The City of Flowery Branch (together with its successors and assigns, "Landlord") Century 21 Connect Realty ("Broker").

WITNESSETH:

WHEREAS, Landlord and Broker are endeavoring to procure an agreement (the "Lease") to lease space (the "Premises") located at 5519 Main St. Suite 101 Flowery Branch, GA 30542,
_____, _____ (the "Project") to (select one):

☐ (A) a prospective tenant ("Tenant"); or

☒ (B) El Sabor Costeno Taqueria LLC ("Tenant").

WHEREAS, Landlord recognizes that valuable services have been rendered by Broker in negotiating and procuring the Lease.

NOW THEREFORE, for and in consideration of Ten and No/100 Dollars (\$10.00), the mutual covenants and conditions contained herein, the services rendered by Broker and other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, the parties hereto do hereby agree as follows:

1. COMMISSION.

- (A) **INITIAL TERM.** In the event a Lease is executed by Tenant and Landlord within 30 (thirty) days following the Effective Date, Landlord shall pay Broker a commission as follows: 3 (three) percent of the base rent of the gross of the lease Landlord hereby expressly authorizes Broker to share the commission with any other licensed real estate broker or brokers in any proportion determined by Broker.
- (B) **EXTENSIONS, RENEWALS AND EXPANSIONS.** In connection with (i) any renewal or extension of the term of the Lease, and/or any other continuation of the occupancy of the Premises by Tenant (whether pursuant to a new lease, lease amendment or otherwise) and/or (ii) any expansion of the Premises or leasing of additional premises by Tenant at the Project (provided Tenant has not appointed another broker in writing other than Broker to represent Tenant's interests with respect to such renewal, extension or continuation), Landlord shall pay Broker a commission as follows: n/a
- (C) **PAYMENT.** Landlord shall pay Broker said commission in immediately available U.S. funds at the office of Broker or at such other address as Broker may designate in writing.
- (D) **APPLICABILITY TO OTHER PREMISES.** The above stated commissions shall not only apply to the Premises but to other substituted premises whether in the same building within the Project or in any other building owned or developed by the Landlord (provided Tenant has not appointed another broker in writing other than Broker to represent Tenant on the matter in question).

- 2. **TERMINATION OR CANCELLATION OF THE LEASE.** Upon the execution of the Lease (or as of the Effective Date in the event the Lease has been fully executed as of the Effective Date), neither voluntary cancellation of the Lease nor any nonpayment of rentals consented to by the Landlord or resulting from any agreement between the Landlord and the Tenant shall nullify or terminate Broker's right to collect commissions due for the remaining term of the Lease or any renewal, extension, or expansion by Tenant as set forth herein. In the event that Broker is receiving an over-the-term commission and the Premises are condemned, or sold under threat of or in lieu of condemnation, Landlord shall, immediately upon receipt by Landlord of the condemnation

award or sale proceeds, pay Broker its commission, discounted to its present cash value at the prime rate of interest (as set forth in the Money Rates Section of The Wall Street Journal, or, if no longer published, any successor or comparable publication selected by Landlord) (the "Prime Rate"), which would otherwise be due through the end of the term contracted for by the Tenant, excluding any unexercised renewals, extensions, or expansions of the Lease.

3. SALE OF PREMISES.

- (A) **COMMISSION DUE IN CONNECTION WITH SALE.** In the event that Landlord sells, conveys title or otherwise transfers ownership of the Premises, and/or the Project in which the Premises is located, to Tenant or an affiliate of Tenant during the Lease term or any extension or renewal thereof, or within n/a (n/a) months after the expiration of the Lease term (including any exercised renewal thereof), Landlord shall pay to Broker a commission payable in cash at closing, in lieu of any future leasing commissions coming due under this Agreement, equal to n/a (n/a%) percent of the sales price. In the event that the Lease is terminated as a result of such purchase and sale transaction, then Landlord shall receive a credit against such commission in an amount equal to the unamortized portion of such commission (i.e. the portion of such commission actually paid by Landlord to Broker for the portion of the Lease term that would have occurred after the closing date of such purchase and sale transaction). The terms of this Section 3(A) shall survive the expiration or termination of this Agreement.
- (B) **OBLIGATIONS TO BROKER UPON TRANSFER.** Upon Landlord's sale conveyance of title or other transfer of ownership of the Premises to Tenant or any other party, Landlord shall notify Broker of such conveyance or transfer. Landlord shall remain fully bound by all of the terms, covenants, agreements, provisions, conditions, obligations and liability of Landlord under this Agreement which accrue from and after the effective date of such transfer unless Landlord's transferee assumes such obligations from Landlord in writing. If Landlord's transferee assumes such obligations as of the effective date of such transfer, Landlord shall provide to Broker a copy of the agreement pursuant to which such transferee assumed such obligations. In the event that Landlord's transferee does not assume such obligations as of the effective date of such transfer, Landlord shall be and remain liable for all commissions due Broker from and after the closing date of such transfer.

4. **INTEREST ON PAST DUE AMOUNTS.** Any and all payments that are past due under this Agreement shall bear interest at the Prime Rate plus 0 percent (0%).

5. **BROKER/AGENCY RELATIONSHIPS.** Pursuant to Regulation 520-1.06 of the Georgia Real Estate Commission's Regulations and Georgia's Brokerage Relationships in the Real Estate Transactions Act, O.C.G.A. Section 10-6A-1 et. seq. ("BRRETA"), Landlord hereby acknowledges that Broker makes the following disclosures, checking all that apply:

- ☐ (A) Broker represents the Landlord only; or
- ☒ (B) Broker represents the Tenant only; or
- ☐ (C) Broker represents both the Landlord and _____ jointly and such dual agency is expressly consented to by the parties by their execution of a Dual Agency Disclosure and Consent Agreement; or
- ☐ (D) Broker has assigned Broker's affiliated license # _____ to represent solely the Landlord as its designated agent and has assigned Broker's affiliated licensee # _____ to represent solely _____ as its designated agent; or
- ☐ (E) Broker represents neither Landlord, nor Tenant, but rather Broker is acting as a transactional broker for both parties pursuant to BRRETA.
- ☐ (F) Broker has no other known agency relationships which would conflict with the interest of the client whom the Broker represents as indicated above in this Section 5 except as follows: _____
_____ Broker shall have no duty to Landlord greater

than what is set forth in BRRETA, Official Code of Georgia Annotated Section 10-6A-1 et. seq. Broker shall keep confidential all information received by the Broker during the course of the engagement which is made confidential by an express request or instruction from the client whom the Broker represents as indicated above in this Section 5 unless such client permits such disclosure by subsequent work or conduct, or such disclosure is required by law; provided, however that the client acknowledges that disclosures between a Broker and any of the Broker's affiliated licensees assisting the Broker in representing the client shall not be deemed to breach this duty of confidentiality described above. FURTHERMORE, PURSUANT TO O.C.G.A. SECTION 10-6A-1 ET SEQ. (BRRETA), IN THE EVENT BROKER IS ACTING IN THE CAPACITY OF A DUAL OR DESIGNATED AGENT, BROKER SUBMITS HERewith TO LANDLORD A COPY OF BROKER'S BROKERAGE RELATIONSHIP POLICIES.

6. **BINDING EFFECT; PARTIES BOUND.** The terms "Landlord", "Broker" and "Tenant" as used herein shall mean and refer to the parties originally named herein and their respective heirs, representatives, affiliates, successors and assigns. This Agreement shall inure to the benefit of and be binding on the parties hereto, their respective heirs, representatives, affiliates, successors and assigns.
7. **MISCELLANEOUS.** Neither this Agreement nor any of the rights, duties or benefits hereunder may be assigned by either party hereto without the prior written consent of the other party hereto. This instrument contains the entire agreement and understanding to the parties hereto with respect to the subject matter contained herein. No representation, promise or inducement not included in this Agreement shall be binding on any party hereto. This Agreement may be modified only in writing signed by the party against which enforcement of the modification is asserted. This Agreement may be executed in multiple counterparts, each of which shall be deemed to be an original, but all of which taken together shall constitute one and the same instrument. Any counterpart of this Agreement may be executed and delivered by facsimile or electronic transmission, which shall have the same force and effect as an original. The date of this Agreement shall be the Effective Date. This Agreement cannot be amended or canceled except by an agreement in writing executed by each of the parties hereto. This Agreement shall be governed by and construed in accordance with the laws of the State of Georgia. Time is of the essence of this Agreement. No failure of any party to exercise any power given hereunder or to insist upon strict compliance with any obligation specified herein, and no custom or practice at variance with the terms hereof, shall constitute a waiver of either party's right to demand exact compliance with the terms hereof. If the time period by which any right, option or election provided under this Agreement must be exercised, or by which any act required hereunder must be performed, expires on a Saturday, Sunday or legal holiday, then such time period shall be automatically extended to the close of business on the next regular business day.
8. **ADDITIONAL PROVISIONS.** If there is an Addendum of Special Stipulations attached to this Agreement or any special stipulations listed below this Section, then such terms are incorporated herein by this reference, and in the event of any conflict between the foregoing provisions of this Agreement and any of the special stipulations contained in such addendum or listed below, then the provisions of such special stipulations shall control.

ATLANTA COMMERCIAL BOARD OF REALTORS, INC. ("ACBR") DISCLAIMER; WAIVER AND RELEASE OF CLAIMS. This "Disclaimer; Waiver and Release of Claims" provision, without any changes, modifications, deletions or revisions, must be included in all ACBR Form documents that include any reference to ACBR. The parties hereto hereby acknowledge and agree that: (A) THIS DOCUMENT HAS IMPORTANT CONSEQUENCES, LEGAL, FINANCIAL AND OTHERWISE, AND ACBR HAS ADVISED THE PARTIES THAT THEY SHOULD EACH CONSULT WITH AN ATTORNEY OR OTHER PROFESSIONAL OF THEIR CHOICE WITH RESPECT TO THE TERMS OF, AND/OR THE COMPLETION, MODIFICATION AND/OR EXECUTION OF, THIS DOCUMENT; (B) form documents by their nature are designed to be of general application, and may not be applicable to specific facts and circumstances, may not address a given party's specific conditions or requirements and/or may not reflect the relative bargaining or negotiations of the parties, as such variables may arise on any given transaction; (C) to avoid any possible misunderstanding or confusion as to the original form of this document and any revisions, modifications or changes to it, any and all revisions, modifications or changes to the original should be made readily apparent by highlighting, underscoring or other means to distinguish them from the original ACBR form; (D) ACBR has made the original versions of this document and other document forms available to ACBR's members as a service, but makes no representation or warranty, express or implied, as to the suitability or applicability of the terms and conditions of, or the enforceability of, this document or other document forms; (E) ACBR document forms are updated by ACBR from time to time, and ACBR strongly recommends to the parties that they use the most current, updated versions of any such document forms; and (F) by executing this document the parties hereto each hereby waive and release ACBR, its officers, directors, members,

employees and agents, from any and all claims, demands and/or causes of action (whether known or unknown) arising out of, pertaining to or resulting directly or indirectly from the use of this form document.

-Signatures on Following Page-

IN WITNESS WHEREOF, the parties hereto, intending to be legally bound, have caused this Agreement to be executed, under seal, in their respective names and on their behalf by their duly authorized officials, the day and year set forth below.

LANDLORD: The City of Flowery Branch

Signature: _____

Name: Edward R. Ashbridge

Title: Mayor

Phone: 770.967.6371

Date: _____

(Seal) **"Attest:
Shelia Cooper, City Clerk**

BROKER: Century 21 Connect Realty

Signature: 

Name: Janet Thomas

Title: Realtor

Firm: Century 21 Connect Realty

Firm License #: H-54812

Phone: 770.640.6800

Date: 5/25/2022

Agent Name(s): Janet Thomas

Agent License #(s): 386757

(Seal)

Add additional names & License #'s of other agents involved in connection with this transaction.



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Award Construction of 250,000 Gallon Elevated Water Tank to Phoenix Fabricators & Erectors

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Currently there is a 60,000 gallon water tank behind the Public Works Complex on Gainesville Street. The tank is no longer adequately sized nor is it high enough for the needs of the City of Flowery Branch.

FACTS AND ISSUES:

The City issued a solicitation for the bid and received two bids on the tank. The lowest bid is approximately \$500 lower than the other bid received. Construction is anticipated to be approximately one year from the time of award on this project; although, every project completion is dependent on supply chain issues at the time. The low bidder has communicated that they believe it will be done within one year. The City of Flowery Branch has a loan from GEFA for several water projects including this one, and the estimated amount was approximately \$2 million (for this specific project).

OPTIONS:

- 1) Award the contract to Phoenix Fabricators & Erectors.
- 2) Award the contract to Caldwell Tanks.
- 3) Do not award the contract.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$2,479,571 - Water/Wastewater Capital Fund (GEFA loan)

RECOMMENDATION:

SAMPLE MOTION:

I move that the city award and approve the contract to Phoenix Fabricators & Erectors for the construction of the 250,000 gallon elevated water tank project for an amount not to exceed \$2,479,571; and, authorize the Mayor to sign the contract subject to the City Attorney's approval.

COLLABORATING DEPARTMENT:

Water/Wastewater

DEPARTMENT: Administration

ATTACHMENTS

- [FB Bid 22-008 Phoenix Ltr of Rec.pdf](#)
- [FB 22-008 Bid Tabulation.pdf](#)
- [Executive Summary - award 250,000 gallon elevated water tank Phoenix.pdf](#)
- [FB 22-008 Water Tank 1 Improvements Contract Set of Specifications.pdf](#)

INFRATEC CONSULTANTS

310 Saddle Hill Court, Roswell, GA 30075
770.596.1984 |

July 8, 2022

Tonya Parrish, City Manager
City of Flowery Branch
5410 Pine Street
Flowery Branch, Georgia 30542

Re: Elevated Water Tank 1 Improvements
Flowery Branch Bid #22-008

Dear Tonya Parrish:

We have reviewed and tabulated the bids received on the above referenced project and find Phoenix Fabricators and Erectors, LLC. of Avon, Indiana to be the low bidder in the amount of \$2,479,571.00.00. We are enclosing a copy of our certified bid tabulation sheet for your use.

It is the recommendation of Infratec Consultants that the City award the project to Phoenix Fabricators & Erectors LLC.

Upon your concurrence, we will forward the contract documents to the contractor for execution. If you have any questions, please contact us.

Sincerely,
Infratec Consultants, Inc.

C. Keith Hendrix

C. Keith Hendrix, PE

Electronic CC: Jimmy Dean, City of Flowery Branch
Matthew Hamby, City of Flowery Branch
Bill Whidden, City of Flowery Branch

Certified Bid Tabulation

Owner: City of Flowery Branch, Georgia				Engineer: Infratec Consultants C. Keith Hendrix, PE			
Project Name: Elevated Water Tank 1 Improvements, Flowery Branch Bid#22-008							
Bid Date & Time: July 7, 2022, 2:00 P.M.							
Contractor				Phoenix Fabricators & Erectors		Caldwell Tanks	
NO.	UNIT PRICE ITEM	QTY	UNITS	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
Part I							
A.	250,000 gallon water storage tank lump sum	1	LS	\$2,415,571.00	\$ 2,415,571.00	\$ 2,445,750.00	\$ 2,445,750.00
Part I Subtotal					\$ 2,415,571.00		\$ 2,445,750.00
Part II	UNIT PRICES						
1.	Silt Fence	500	LF.	\$10.00	\$ 5,000.00	\$7.00	\$ 3,500.00
2.	Hay Bales	250	L.F.	\$10.00	\$ 2,500.00	\$10.00	\$ 2,500.00
3.	Rip Rap (DOT Type 1)	10	S.Y.	\$150.00	\$ 1,500.00	\$75.00	\$ 750.00
4.	#57 Gravel Drive Replacement	200	Tons	\$75.00	\$ 15,000.00	\$40.00	\$ 8,000.00
5.	Grassing (Temporary)	0.5	Ac.	\$5,000.00	\$ 2,500.00	\$2,000.00	\$ 1,000.00
6.	Grassing (Permanent)	0.5	Ac.	\$5,000.00	\$ 2,500.00	\$3,000.00	\$ 1,500.00
7.	Construction Exit	2	EA	\$5,000.00	\$ 10,000.00	\$500.00	\$ 1,000.00
8.	Geotechnical Testing Allowance	1	L.S.	\$25,000.00	\$ 25,000.00	\$25,000.00	\$ 25,000.00
Part II Subtotal					\$ 64,000.00		\$ 43,250.00
Grand Total I and II					\$ 2,479,571.00		\$ 2,489,000.00

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Award construction of 250,000 gallon elevated water tank to Phoenix Fabricators & Erectors

DATE: JULY 21, 2022

BUDGET INFORMATION:
ANNUAL-
CAPITAL-\$2,479,571

☒ **RECOMMENDATION**
☐ **POLICY DISCUSSION**
☐ **STATUS REPORT**
☐ **OTHER**

COUNCIL ACTION REQUESTED ON: JULY 21, 2022

PURPOSE: The purpose of this agenda item is to request an award to the lowest responsible, responsive bidder to our invitation to bid for the 250,000 elevated water tank.

HISTORY: Currently there is a 60,000 gallon water tank behind the Public Works Complex on Gainesville Street. The tank is no longer adequately sized nor is it high enough for the needs of the City of Flowery Branch.

FACTS AND ISSUES: The City issued a solicitation for the bid and received two bids on the tank. The lowest bid is approximately \$500 lower than the other bid received. Construction is anticipated to be approximately one year from the time of award on this project; although, every project completion is dependent on supply chain issues at the time. The low bidder has communicated that they believe it will be done within one year. The City of Flowery Branch has a loan from GEFA for several water projects including this one, and the estimated amount was approximately \$2 million (for this specific project).

OPTIONS: 1) Award the contract to Phoenix Fabricators & Erectors.
2) Award the contract to Caldwell Tanks.
3) Do not award the contract.

RECOMMENDED SAMPLE MOTION: I move that the city award and approve the contract to Phoenix Fabricators & Erectors for the construction of the 250,000 gallon elevated water tank project for an amount not to exceed \$2,479,571; and, authorize the Mayor to sign the contract subject to the City Attorney's approval.

DEPARTMENT: Administration

Prepared by: Tonya Parrish

Contract Documents

For

**City of Flowery Branch
Hall County, Georgia**

Elevated Water Tank 1 Improvements

May 2022

Prepared By:

Infratec Consultants, Inc.

INFRASTRUCTURE TECHNOLOGY

**310 Saddle Hill Ct.
Roswell, Georgia 30075**

Infratec Project No.: FBR 18003



CONTRACT SET

Date: June 21, 2022

Owner: City of Flowery Branch, Georgia

Project: Elevated Water Tank 1 Improvements

Flowery Branch Bid # 22-008

ADDENDUM NUMBER ONE

1. The following Addendum hereby amends and/or modifies the Contract Documents and any previous addenda as indicated and as issued by Infratec Consultants. All Bidders are subject to the provisions of this Addendum. Bidders shall acknowledge receipt of this Addendum on the Bid Form.
2. Change all references for the bid date to: Thursday, July 7, 2022, 2:00 PM, local time.
3. This project will be funded through the Georgia Environmental Finance Authority (GEFA). Add the enclosed Section 0015-GEFA Supplemental General Conditions; Section 0016 – Davis Bacon Wage Rates; and Section 0017-GEFA American Iron and Steel Special Conditions to the Bidding Documents. The Contractor shall comply with all additional bidding and construction requirements as outlined in the GEFA documents.
4. Remove and Replace Section 09800-Steel Water Tank 1 with the enclosed specification noted with Addendum No One. The paint specification has been updated to the upcoming potable water standards.
5. Remove and Replace Section 13412-Elevated Storage Tank No 1 with the enclosed specification noted with Addendum No One.
6. In Section 0013, C-700 Standard General Conditions; Article 6- Contractor's Responsibilities; Paragraph B under 6.02 Labor; Workings Hours; strike the words Saturday and Sunday.

End of Addendum Number One

Keith Hendrix, PE
404-861-6956
kh.infratec@aol.com

GEORGIA ENVIRONMENTAL FINANCE AUTHORITY

SUPPLEMENTAL GENERAL CONDITIONS

for

FEDERALLY ASSISTED
STATE REVOLVING LOAN FUND
CONSTRUCTION CONTRACTS

May 9, 2014

The following standard language must be incorporated into construction contract documents and in all solicitations for offers and bids for all construction contracts or subcontracts in excess of \$10,000 to be funded in whole or in part by the Federally-assisted State Revolving Fund in the State of Georgia.

These Supplemental General Conditions shall not relieve the participants in this project of responsibility to meet any requirements of other portions of this construction contract or of other agencies, whether these other requirements are more or less stringent. The requirements in these Supplemental General Conditions must be satisfied in order for work to be funded with the State Revolving Fund.

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INSTRUCTIONS & GENERAL REQUIREMENTS

It is the policy of the State Revolving Loan Fund (SRF) to promote a fair share of subcontract, materials, equipment and service awards to small, minority, and women-owned businesses for equipment, supplies, construction, and services. Compliance with these contract provisions is required in order for project costs to be eligible for SRF funding. The fair share objective is a goal, not a quota. Failure on the part of the apparent successful bidder to submit required information to the loan recipient (Owner) may be considered by the Owner in evaluating whether the bidder is responsive to bid requirements.

THE PRIME CONTRACTOR MUST SUBMIT THE FOLLOWING ITEMS TO THE OWNER:

A. Before beginning the work of any contract:

- 1) **DBE Compliance Form and related documentation.** The Owner must submit this information to the Georgia Environmental Finance Authority (GEFA) to demonstrate compliance with Disadvantaged Business Enterprise (DBE) requirements. GEFA concurrence is recommended prior to award of the construction contract and is required prior to commencement of any SRF-funded construction. (Pages GEFA-4&5)
- 2) **Certification Regarding Equal Employment Opportunity.** This form is required for the Prime Contractor and for all subcontractors. The Prime Contractor form should be submitted with the DBE Compliance Form, and the subcontractor forms should be submitted as the subcontracts are executed. (Page GEFA-9)
- 3) **Certification Regarding Debarment, Suspension, & Other Responsible Matters.** This form is required for the Prime Contractor and for all subcontractors. The Prime Contractor form should be submitted with the DBE Compliance Form and the subcontractor forms should be submitted as the subcontracts are executed. (Page GEFA-10)
- 4) ***EPA Form 6100-2 DBE Subcontractor Participation Form.** This form gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the Prime Contractor, how much the DBE subcontractor was paid, and any concerns the DBE subcontractor might have. The Prime Contractor must provide this form to each DBE subcontractor. The DBE subcontractor can, as an option, complete and submit this form to the GEFA DBE Coordinator, who will also forward the form to the EPA DBE Coordinator. (Page GEFA-11)
- 5) ***EPA Form 6100-3 DBE Subcontractor Performance Form.** This form captures the description of work to be performed by an intended DBE subcontractor and the price of the work. This form is to be provided by the Prime Contractor to each DBE subcontractor and submitted with the DBE Compliance Form. (Page GEFA-12)
- 6) ***EPA Form 6100-4 DBE Subcontractor Utilization Form.** This form captures intended or anticipated use of an identified DBE subcontractor by the Prime Contractor and the estimated dollar amount of the work. This form is to be completed by the Prime Contractor and submitted with the DBE Compliance Form. (Page GEFA-13)

* 6100 FORMS ARE NOT REQUIRED WHEN ALL OF THE WORK IS SELF-PERFORMED BY THE PRIME CONTRACTOR.

B. During the performance of the contract:

- 7) **Changes to Subcontractors Form.** If any changes, substitutions, or additions are proposed to the subcontractors included in previous GEFA concurrences, the Owner must submit this information to GEFA for prior concurrence in order for the affected subcontract work to be eligible for SRF funding. (Page GEFA-14)
- 8) **DBE Annual Report.** The Owner must submit this information to GEFA no later than October 20th of any year that the construction contract is active. (Page GEFA-15)
- 9) **Certified Payrolls.** These should be submitted to the Owner weekly for the Prime Contractor and all subcontractors. The Owner must maintain payroll records and make these available for inspection. Use Department of Labor form WH-347 or a similar form that contains all of the information on the Department of Labor.

THE OWNER MUST SUBMIT INFORMATION FOR GEFA REVIEW AND CONCURRENCE TO:

Georgia Environmental Finance Authority
Attention: DBE Compliance Coordinator
233 Peachtree Street, N.E.
Harris Tower, Suite 900
Atlanta, Georgia 30303
(404)584-1000; (404)584-1069 (fax)
dbecompliance@gefa.ga.gov

GEFA-3

DBE COMPLIANCE FORM

ALL INFORMATION OUTLINED ON THIS FORM IS REQUIRED FOR DBE COMPLIANCE REVIEW. THE PROPOSED PRIME CONTRACTOR AND OWNER SHOULD ENSURE THAT THIS INFORMATION IS COMPLETE PRIOR TO SUBMITTAL.

Loan Recipient _____

SRF Loan Number _____

PRIME CONTRACTOR'S AND OWNER'S CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this firm has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants and that EPA Forms 6100-2 and 6100-3 were distributed to all DBE subcontractors.

(Prime Contractor signature)

Date _____

(Printed name and title)

I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Owner's State Revolving Fund loan contract.

(Signature of Owner or Owner's representative)

Date _____

(Printed name and title)

CONTACT INFORMATION

Owner contact _____

Owner phone number & email _____

Consulting Engineer contact _____

Consulting Engineer phone number & email _____

Proposed Prime Contractor _____

Prime Contractor contact _____

Prime Contractor phone number & email _____

Proposed total contract amount \$ _____

Proposed total MBE participation \$ _____ Percentage _____ Goal: 4.0 percent

Proposed total WBE participation \$ _____ Percentage _____ Goal: 4.0 percent

CONTINUED ON NEXT PAGE

Please submit the following with the DBE Compliance Form:

- 1) List of all committed and uncommitted subcontractors by trade, including company name, address, telephone number, contact person, dollar amount of subcontract, and DBE/MBE/WBE status.
- 2) Indicate in writing if no solicitations were made because the Prime Contractor intends to use only its own forces to accomplish the work.
- 3) Proof of certification by EPA, SBA, DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA criteria) for each subcontractor listed as a DBE, MBE, or WBE.
- 4) Documentation of solicitation efforts for prospective DBE firms, such as fax confirmation sheets, copies of solicitation letters and e-mails, printout of online solicitations, printouts of online search results and copies and affidavits of publication in newspapers or other publications. (see also, "Six Good Faith Efforts", page GEFA-7).
 - a. The Prime Contractor shall use the necessary resources to identify and directly solicit no less than 3 certified MBE firms and 3 certified WBE firms to bid in each expected subcontract trade or area. If a diligent and documented search of the recommended directories does not identify 3 potential certified MBE firms and 3 potential certified WBE firms, then the Prime Contractor shall post an advertisement in the Owner's local legal organ, the Owner's official website, a regional newspaper in a larger community in the proximity, the Prime Contractor's website, or some other appropriate resource.
 - b. The Prime Contractor is encouraged to follow-up each written, fax, or e-mail solicitation with at least 1 logged phone call.
 - c. Whenever possible, post solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- 5) Written justification for not selecting a certified DBE subcontractor that submitted a low bid for any subcontract area.
- 6) Certification By Proposed Prime Contractor or Subcontractor Regarding Equal Employment Opportunity (GEFA-9)
- 7) Certification By Proposed Prime or Subcontractor Regarding Debarment, Suspension, and Other Responsible Matters. (GEFA-10)
- 8) *EPA Form 6100-3 DBE Subcontractor Performance Form for all DBE subcontracts. (GEFA-12)
- 9) *EPA Form 6100-4 DBE Subcontractor Utilization Form for all DBE subcontracts. (GEFA-13)

*6100 forms are not required when all of the work is self-performed by the prime contractor.

END OF DBE COMPLIANCE FORM



DBE COMPLIANCE CHECKLIST

THE PRIME CONTRACTOR MUST SUBMIT THE FOLLOWING ITEMS TO THE OWNER BEFORE THE WORK BEGINS:

Loan Recipient _____

SRF Loan Number _____

Include in Package Submittal

PRIME CONTRACTOR ONLY	TOTAL CONTRACT AMOUNT	
ALL SUBCONTRACTORS, INCLUDING DBE FIRMS	TRADE	AMOUNT
ALL SUBCONTRACTORS, INCLUDING DBE FIRMS	TRADE	AMOUNT
DBE SUBCONTRACTORS ONLY	TRADE	AMOUNT
DBE SUBCONTRACTORS ONLY	TRADE	AMOUNT
PRIME CONTRACTOR ONLY <i>(Not applicable if self-performing all work, with no subcontracting)</i>		

1. **DBE Compliance Form.** The Owner must sign and submit this information to the Georgia Environmental Finance Authority (GEFA) to demonstrate compliance with DBE requirements. GEFA concurrence is recommended prior to award of the construction contract and is required prior to commencement of any SRF-funded construction. (Pages GEFA-4&5)

2. **Certification Regarding Equal Employment Opportunity.** This form is required for the Prime Contractor and for all subcontractors. The Prime Contractor's form should be submitted with the DBE Compliance Form and the subcontractors' forms should be submitted as the subcontracts are executed. (Page GEFA-9)

3. **Certification Regarding Debarment, Suspension, & Other Responsible Matters.** This form is required for the Prime Contractor and for all subcontractors. The Prime Contractor's form should be submitted with the DBE Compliance Form and the subcontractors' forms should be submitted as the subcontracts are executed. (Page GEFA-10)

4. **EPA Form 6100-2 DBE Subcontractor Participation Form.** This form gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from Prime Contractor, how much the DBE subcontractor was paid, and any other concerns the DBE subcontractor might have. The Prime Contractor must provide this form to each DBE subcontractor. The DBE subcontractor can, as an option, submit this form to the GEFA DBE Coordinator, who will forward the form to the EPA DBE Coordinator. (Page GEFA-11)

5. **EPA Form 6100-3 DBE Subcontractor Performance Form.** This form captures an intended DBE subcontractor's description of work to be performed for the Prime Contractor and the price of the work. This form is to be provided by the Prime Contractor to each DBE subcontractor and submitted with the DBE Compliance Form. (Page GEFA-12)

6. **EPA Form 6100-4 DBE Subcontractor Utilization Form.** This form captures the Prime Contractor's intended use of an identified DBE subcontractor and the estimated dollar amount of the work. This form is to be completed by the Prime Contractor and submitted with the DBE Compliance Form (Page GEFA-13)

Uncommitted Trades

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Documentation of Good Faith Efforts

Newspaper ads	Internet Websites	Fax Confirmation	Copies of Solicitation Emails/letters	Copies of phone logs
PROOF OF CERTIFICATION FOR EACH SUBCONTRACTOR LISTED AS A DBE, MBE, OR WBE				

SIX GOOD FAITH EFFORTS

These good faith efforts are required methods to ensure that DBEs have the opportunity to compete for procurements funded by EPA financial assistance dollars. Such good faith efforts are described as follows:

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. This will include placing DBEs on solicitation lists and soliciting them whenever there are potential sources.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the resources, services, and assistance of the Department of Transportation (DOT), Small Business Administration (SBA), and the Minority Business Development Agency of the Department of Commerce (MBDA).
6. If the Prime Contractor awards subcontracts, it must take the steps described in items (1) through (5) listed above.

Please note that DBEs, MBEs, and WBEs must be certified by EPA, SBA, or DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA's). DBEs must be certified in order to be counted toward the Prime Contractor's MBE/WBE goals. "Self-certified" DBE subcontractors will not be counted toward the Prime Contractor's MBE/WBE goals. Depending upon the certifying agency, a DBE may be classified as a DBE, a Minority Business Enterprise (MBE), or a Women's Business Enterprise (WBE).

The Prime Contractor must employ and document the Six Good Faith Efforts for all subcontracts, even if the Prime Contractor has achieved the fair share objectives.

The documentation of solicitations for the Six Good Faith Efforts must be detailed in order to allow for satisfactory review. Such documentation might include fax confirmation sheets, copies of solicitation letters/emails, printouts of the online solicitations, printouts of online search results and affidavits of publication in newspapers or other publications. The Prime Contractor is encouraged to follow up each written, fax, or e-mail solicitation with at least 1 logged phone call.

The Prime Contractor should attempt to identify and solicit DBEs in the geographic proximity of the project before soliciting those located farther away.

If a DBE subcontractor fails to complete work under the subcontract for any reason, the Prime Contractor must notify the Owner in writing prior to any termination and must employ the Six Good Faith Efforts described above if using a replacement subcontractor. Any proposed changes from the approved DBE subcontractor list must be reported to the Owner and to GEFA on the *Changes to Approved Subcontractors Form* (GEFA-14) prior to initiation of the action. EPA Forms Nos. 6100-3 and 6100-4 must also be submitted to GEFA for new DBE subcontracts.

RESOURCES FOR IDENTIFYING DBE SUBCONTRACTORS

RESOURCES FOR IDENTIFYING DBE SUBCONTRACTOR'S FOR DIRECT SOLICITATION:

Georgia Department of Transportation (GDOT)
Disadvantaged Business Enterprise Program
(404) 631-1972

http://tomcat2.dot.state.ga.us/ContractsAdministration/uploads/rptDBE_Directory_CA_New.pdf

City of Atlanta, Georgia
Office of Contract Compliance
(404) 330-6010
<http://pro.prismcompliance.com/>

DeKalb County, Georgia
Office of Purchasing and Contracting
(404) 371-4730
<http://www.co.dekalb.ga.us/purchasing/pdf/supplierList.pdf>

Fulton County, Georgia
Purchasing and Contract Compliance
(404) 612-5800
http://www.fultoncountyga.gov/plugins/content/external_links/frameset.php?url=http%3A%2F%2Fwww.occfultoncountyga.com%2FDirectory%2FMBEDirectoryExternal.aspx

Metropolitan Atlanta Rapid Transit Authority (MARTA)
Disadvantaged Business Enterprise Program
(404) 848-4656
<http://www.itsmarta.com/vendor-opportunities.aspx>

United States Environmental Protection Agency
http://www.epa.gov/osbp/dbe_team.htm
Teree Henderson
National DBE Program Coordinator
(202) 566-2222
henderson.teree@epa.gov

Georgia Environmental Finance Authority
DBE Compliance Coordinator
(404) 584-1000
www.gefa.ga.gov
db_compliance@gefa.ga.gov

NOTES:

- (1) The Prime Contractor shall use the necessary resources to identify and directly solicit no less than 3 certified MBE firms and 3 WBE firms to bid in each expected subcontract area or trade.
- (2) If a diligent and documented search of the recommended directories does not identify 3 potential certified MBE firms and 3 potential certified WBE firms, then the Prime Contractor shall post an advertisement in the Owner's local legal organ, the Owner's official website, a regional newspaper in a larger community in the proximity, the Prime Contractor's website, or some other appropriate resource. Whenever possible, post solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- (3) Expenditures to a DBE that acts merely as a broker or passive conduit of funds, without performing, managing, or supervising the work of its subcontract in a manner consistent with normal business practices may not be counted.
- (4) The Prime Contractor should attempt to identify and first solicit DBEs in the geographic proximity of the project before soliciting those located farther away.
- (5) Contact the GEFA DBE Compliance Coordinator at (404) 584-1000 or db_compliance@gefa.ga.gov for further assistance or resources.

**CERTIFICATION BY PROPOSED PRIME CONTRACTOR OR SUBCONTRACTOR
REGARDING
EQUAL EMPLOYMENT OPPORTUNITY**

Proposed Prime Contractor
Proposed Subcontractor

This certification is required pursuant to Executive Order 11246, Part II, Section 203 (b), (30 F.R. 12319-25). Any bidder or prospective prime contractor, or any of the proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the prime or subcontractor has not filed a compliance report due under applicable instruction, such contractor shall be required to submit a compliance report.

(1) Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
YES _____ NO _____

(2) Compliance Reports were required to be filed in connection with such contract or subcontract.
YES _____ NO _____ (If YES, state what reports were filed and with what agency.)

(3) Bidder has filed all compliance reports due under applicable instructions, including SF-100 (EEO-1 Report).
YES _____ NO _____ (If NO, please explain in detail.)

The information above is true and complete to the best of my knowledge and belief. (A willfully false statement is punishable by law – U.S. Code, Title 18, Section 1001.)

PRINTED NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR OR SUBCONTRACTOR

SIGNATURE OF AUTHORIZED REPRESENTATIVE

DATE

**CERTIFICATION BY PROPOSED PRIME CONTRACTOR OR SUBCONTRACTOR
REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBLE MATTERS**

Proposed Prime Contractor
Proposed Subcontractor

Under Executive Order 12549 individuals or organizations debarred from participation in Federal Assistance Programs may not receive an assistance award under federal program or sub-agreement there under for \$25,000 or more. Accordingly each recipient of a State loan or a contract (engineering or construction) awarded under a loan must complete the following certification (see 40 CFR 32.510).

The prospective participant certifies to the best of its knowledge and belief that it and its principals;

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- (d) Have not within a three year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause of default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. (A willfully false statement is punishable by law – U.S. Code, Title 18, Section 1001.)

PRINTED NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR OR SUBCONTRACTOR

SIGNATURE OF AUTHORIZED REPRESENTATIVE

DATE

_____ I am unable to certify to the above statements. My explanation is as follows:

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services , Equipment or Supplies	Amount Received by Prime Contractor

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Performance Form

This form is intended to capture the DBE¹ subcontractor's² description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services , Equipment or Supplies	Price of Work Submitted to the Prime Contractor
DBE Certified By: ___ DOT ___ SBA ___ Other: _____		Meets/ exceeds EPA certification standards? ___YES ___NO ___Unknown

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract.

An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package.

Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	___ YES	___ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?

Continue
on back
if needed

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

CHANGES TO APPROVED SUBCONTRACTORS FORM

Loan Recipient _____ SRF Loan Number _____

CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this firm has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants.

(Prime Contractor signature) Date _____

(Printed name and title)

I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Owner's State Revolving Fund loan contract.

(Signature of Owner or Owner's representative) Date _____

(Printed name and title)

GENERAL INFORMATION:

- 1) If an approved subcontractor is terminated or replaced, please identify this company and briefly state reason.

Subcontractor Name::	Trade
Reason Terminated or Replaced	

- 2) For new or additional subcontractors, list name, trade, address, telephone number, contact person, dollar amount of subcontract, and DBE status.

New Subcontractor Name and Contact Person	Trade
Address	Telephone Number
Dollar Amount	DBE Status

- 1) Attach proof of certification by EPA, SBA, DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA's) for each subcontractor listed as a DBE, MBE, or WBE.
- 2) Attach documentation of Six Good Faith Efforts solicitation effort for all new subcontracts.
- 3) Provide justification for not selecting any certified DBE subcontractor that submitted a low bid for any subcontract area.
- 4) For each subcontractor, attach certifications regarding Equal Employment Opportunity (GEFA-9) and certifications regarding Debarment, Suspension, and Other responsible Matters (GEFA-10)

DBE ANNUAL REPORT
FORM (5700-52A)

This form must be completed by recipients of federal financial assistance for procurement of supplies, equipment, construction or services. SRF loan recipients are required to submit this report to GEFA by the 20th of October for the previous period of October 1 through September 30. Please submit a "negative" report even if \$0 is the amount paid to MBE/WBE subcontractors during the reporting period.

ANNUAL REPORT FORM (5700-52A)			
1. PRIME CONTRACTOR		2. REPORTING PERIOD (Complete date using current year.) Period Ending (September 30, _____)	
3. SUBMIT TO: Georgia Environmental Finance Authority Attention: DBE Compliance Coordinator 233 Peachtree Street, N.E. Harris Tower, Suite 900 Atlanta, Georgia 30303 dbe_compliance@gefa.ga.gov		4. LOAN RECIPIENT (Name, Address and Telephone)	
5. LOAN RECIPIENT (OWNER) REPORTING CONTACT	PHONE:	6. TYPE OF FEDERAL FINANCIAL ASSISTANCE PROGRAM (Check one) CWSRF _____ DWSRF _____	7. SRF LOAN NUMBER
8. CONTRACTOR NAME & TOTAL CONSTRUCTION CONTRACT AMOUNT		9. ACTUAL DOLLAR AMOUNT PAID TO MBE/WBE SUBCONTRACTORS THIS PERIOD \$ MBE _____ \$ WBE _____ NEGATIVE REPORT (\$0) ____	
10. RECIPIENT'S MBE/WBE GOALS MBE 4.0 % WBE 4.0 %		11. TOTAL DOLLARS SPENT THIS PERIOD MBE \$ _____ WBE \$ _____ NON MBE/WBE \$ _____ TOTAL \$ _____	
12. NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF LOAN RECIPIENT (OWNER).		13. SIGNATURE OF AUTHORIZED REPRESENTATIVE OF LOAN RECIPIENT.	14. DATE
MBE/WBE PAYMENTS MADE DURING PERIOD			
NAME & ADDRESS of DBE (SUB)CONTRACTOR (indicate if MBE or WBE firm)		TOTAL DOLLAR AMOUNT PAID & DATE PAID \$ _____ DATE _____	

SPECIAL PROVISIONS

- (a) The Prime Contractor is required to pay its subcontractors in accordance with the Georgia Prompt Payment Act (OCGA 13-11).
- (b) The Prime Contractor is required to insert the entirety of the Davis Bacon contract requirements into all subcontracts
- (c) Sewer line and water line crossing of all roads and streets shall be done in accordance with the Georgia Department of Transportation (D.O.T.) Policies and Procedures and must comply with the Ga. D.O.T. Standard Specifications, Construction of Roads and Bridges, 1993 Edition.
- (c) Construction shall be carried out so as to prevent bypassing of wastewater flow and to prevent interruption of drinking water treatment during construction. EPD must receive written notification prior to any reduction in the level of treatment and must approve all temporary modifications to the treatment process prior to the activity.
- (d) Erosion and Sedimentation Control shall be accomplished in accordance with the Georgia Erosion and Sedimentation Control Act of 1975 as currently amended and NPDES General Permits (Storm Water from Construction Sites). See also www.gaepd.org and www.gaswcc.georgia.gov for information regarding permits.
- (e) Use of Chemicals: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer reactant or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in conformance with State and local regulations as appropriate.
- (f) It is the duty of the Prime Contractor, the Owner and the Engineer to ensure the construction of the project, including the letting of contracts in connection therewith, shall comply with all applicable laws and regulations and requirements of the United States of America or any agency thereof, the state of Georgia or any agency thereof, territorial, or any local government laws or political subdivision and ordinances to the extent that such requirements do not conflict with Federal laws and this subchapter.
- (g) EPD, EPA, and GEFA shall have access to the site and the project work at all times.

BONDS

Bonding requirements for Contracts of \$100,000 or less are contained in the General Conditions. Bond requirements of contracts in excess of \$100,000 are:

1. Bid guarantee equivalent to five percent of the bid price. The bid guarantee shall consist of a firm commitment such as a certified check or bid bond submitted with the bid.
2. Performance bond equal to 100 percent of the contract price and;
3. Payment bond equal to 100 percent of the contract price. Bonds must be obtained from companies holding Certificates of Authority as acceptable sureties, issued by the U.S. Treasury.

SPECIAL NOTICE TO BIDDERS

By the submission of this bid, each bidder acknowledges that he understands and agrees to be bound by the equal opportunity requirements of EPA regulations (40 CFR Part 8, particularly Section 8.4 (b)), which shall be applicable throughout the performance of work under any contract awarded pursuant to this solicitation. Each bidder agrees that if awarded a contract, it will similarly bind contractually each subcontractor. In implementation of the foregoing policies, each bidder further understands and agrees that if awarded a contract, it must engage in affirmative action directed at promoting and ensuring equal employment opportunity in the workforce used under the contract (and that it must require contractually the same effort of all subcontractors whose subcontracts exceed \$10,000.00). The bidder understands and agrees that "affirmative action" as used herein shall constitute a good faith effort to achieve and maintain minority employment in each trade in the on-site workforce used on the project.

EQUAL EMPLOYMENT OPPORTUNITY NOTICE

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the Equal Opportunity Clause which is included in the nondiscrimination Provision and Labor Standards, EPA Form 5720-4 and the Standard Federal Equal Employment Opportunity (EEO) Construction Contract Specifications set forth herein.
2. The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	4.0 percent
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Goals for female participation for each trade	4.0 percent
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These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minority and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation to the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical area where the contract is to be performed giving the state, county and city, if any).

EEO Construction Contract Specifications (Executive Order 11246)

EEO Specifications:

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Program, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form, 941.
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7(a) through (p) of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trained programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7(b) above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations 7(a) through (p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7(a) through (p) of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes

a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Davis-Bacon and Related Acts

Labor Standards Provisions for Federally Assisted Contracts

Contract Provision for Contracts in Excess of \$2,000.

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, <http://www.dol.gov/whd/govcontracts/dbra.htm> (E-tools)

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly

payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the

meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job

(5) Compliance Verification:

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractors' use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must provide a report of compliance to the Georgia Environmental Finance Authority detailing compliance efforts and results. This report will be submitted with or prior to the loan recipient's first request for funding of construction costs, prior to final disbursement of funds from the loan, and as requested by the GEFA during the project.

(f) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB coordinator and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/whd/america2.htm>.

INSERT WAGE RATE DETERMINATION HERE

Wage Rates (for *Heavy Construction*) are state/county specific can be found at:

<http://www.dol.gov/whd/govcontracts/dbra.htm>

Sample Payroll Form (WH-347) is found at:

<http://www.dol.gov/whd/forms/wh347.pdf>

Labor Standards Interview Form (SF-1445) is found at:

<http://www.gsa.gov/portal/forms/download/115910>

Davis-Bacon (WH-1321) poster is found at:

<http://www.dol.gov/whd/regs/compliance/posters/fedprojc.pdf>
(English)

<http://www.dol.gov/whd/regs/compliance/posters/davispan.pdf>
(Spanish)

Fair Labor Standards Act Minimum Wage poster is found at:

<http://www.dol.gov/whd/regs/compliance/posters/minwagebwp.pdf>
(English)

<http://www.dol.gov/whd/regs/compliance/posters/minwagespbwP.pdf>
(Spanish)

“EEO Is the Law” poster is found at:

http://www.eeoc.gov/employers/upload/eeoc_self_print_poster.pdf
(English)

http://www.eeoc.gov/employers/upload/eeoc_self_print_poster_spanish.pdf
(Spanish)

“EEO Is the Law” poster supplement is found at:

http://www.eeoc.gov/employers/upload/eeoc_gina_supplement.pdf
(English)

http://www.eeoc.gov/employers/upload/eeoc_gina_supplement_spanish.pdf
(Spanish)

OSHA poster is found at:

<http://www.osha.gov/Publications/osh3165low-res.pdf>
(English)

<http://www.osha.gov/Publications/osh3167.pdf>
(Spanish)

CERTIFIED PAYROLL REVIEW CHECKLIST

(This is a *recommended Certified Payroll Review Checklist for the Owner's use.*)

CONTRACT ID City of CW/DWSRF#00 - 000	PRIME CONTRACTOR/SUBCONTRACTOR X Construction
GENERAL WAGE DECISION AND DATE (Insert number & date)	PAYROLL PERIOD ENDING

INSTRUCTIONS: This checklist is to be used in conjunction with projects requiring Davis-Bacon Wage Rates and compliance reviews. All certified payrolls are to be date stamped upon receipt from the prime contractor.

Payroll Information Checklist:

- _____ Prime Contractor's or subcontractor's name and address
- _____ Contract ID numbers (GEFA SRF No.)
- _____ Week ending.
- _____ Project location.

- _____ Employee ID or Last 4 digits of Social Security Number
 - _____ Social Security Number removed
 - _____ Employee's work classification
 - _____ Identification of OJTs, apprentices and program levels (%) on payrolls.
 - _____ Verify that OJT and Apprentice Program documentation is in project files.

- _____ Daily and weekly employee hours worked in each job classification.
 - _____ Daily and weekly employee overtime (or premium) hours worked
 - _____ Total weekly hours worked on all jobs (prevailing and non-prevailing wage).
 - _____ Base rate shown for each employee, overtime (or premium) rate shown when worked.
 - _____ Verify correct wage rates are being paid.
 - _____ Verify overtime is being paid correctly (over 40 hrs/wk, and Time and a half)
 - _____ Week's gross wages
 - _____ Week's itemized deductions.
 - _____ Week's net wages paid

- _____ Compliance statement attached.
 - _____ Method of fringe benefit payment described by checking either box (4)(a) or (4)(b).
 - _____ Fringe benefit package information in file and updated as needed (if 4(a) is checked)
 - _____ Exceptions explanation for fringe benefit (4)(c).
 - _____ Signature.

Compliance Review Checklist (for field reviews):

- _____ Verify work classifications reported are consistent with the work performed.
- _____ Compare payrolls with wage rate interviews when conducted.
- _____ Compare number of employees and hours worked with project documentation.

REVIEWED BY:	DATE
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Attached are the Davis Bacon Wage Rates (Heavy Construction) for Hall County, Georgia.

"General Decision Number: GA20210071 04/16/2021

Superseded General Decision Number: GA20200071

State: Georgia

Construction Type: Heavy

Heavy Construction, Includes Water and Sewer Lines, and Heavy Construction on Treatment Plant Sites and Industrial Sites (Refineries, Power Plants, Chemical and Manufacturing Plants, Paper Mills, Etc.)

County: Hall County in Georgia.

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	04/16/2021

* ELEC0613-022 09/01/2020

	Rates	Fringes
ELECTRICIAN.....	\$ 33.00	31%

ENGI0926-019 07/01/2020		

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Crane, Mechanic.....	\$ 32.63	13.83

 SUGA2012-101 08/11/2012

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 15.44	0.00
CARPENTER, Excludes Form Work....	\$ 14.76	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 16.96	0.00
IRONWORKER, REINFORCING.....	\$ 13.30	1.66
LABORER: Common or General.....	\$ 9.84	0.00
LABORER: Pipelayer.....	\$ 11.17	0.92
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 14.46	0.00
OPERATOR: Bulldozer.....	\$ 14.58	0.00
OPERATOR: Grader/Blade.....	\$ 20.24	0.00
OPERATOR: Loader.....	\$ 16.59	4.13
OPERATOR: Piledriver.....	\$ 18.72	2.06
OPERATOR: Roller.....	\$ 12.04	0.69
TRUCK DRIVER: Dump Truck.....	\$ 12.79	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 17.28	1.84

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a

new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

GEORGIA ENVIRONMENTAL FINANCE AUTHORITY

AMERICAN IRON AND STEEL

SPECIAL CONDITIONS AND INFORMATION

For

**FEDERALLY ASSISTED
STATE REVOLVING LOAN FUND
CONSTRUCTION CONTRACTS**

April 11, 2014

The following standard language must be incorporated into construction contract documents and in all solicitations for offers and bids for all construction contracts or subcontracts to be funded, in whole or in part, through the Federally-assisted State Revolving Fund in the State of Georgia for projects subject to the American Iron and Steel requirements.

These Special Conditions shall not relieve the participants in this project of responsibility to meet any requirements of other portions of this construction contract or of other agencies, whether these other requirements are more or less stringent. The requirements in these Special Conditions must be satisfied in order for work to be funded with the State Revolving Fund.

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GENERAL REQUIREMENTS

These Special Conditions are based on guidance provided by the United States Environmental Protection Agency (EPA). Public Law 113-76, the Consolidated Appropriations Act, 2014 (Act), includes an “American Iron and Steel” (AIS) requirement that requires State Revolving Loan Fund (SRF) assistance recipients to use iron and steel products that are produced in the United States for projects in this project. A copy of Section 436 of the Act is found in Appendix 3.

The products and materials subject to these requirements will be defined in Appendix 1 of these special conditions.

The Owner must maintain documentation of compliance with the AIS requirements. The documentation that the Owner maintains will be subject to review and audit by representatives of the state of Georgia, the EPA, the EPA Office of the Inspector General, and other federal authorities.

The Prime Contractor must provide certifications of compliance for all products subject to AIS requirements to the Owner prior to requesting payments for those products. The Owner or the Engineer may require certifications of compliance with submittals and shop drawings for these products as part of the submittal review process.

All manufacturing processes for a covered iron or steel product, as further defined in Appendix 1, must take place in the United States. If a covered product is taken out of the US for any part of the manufacturing process, it becomes foreign source material.

The EPA recommends the use of a step certification process to document the locations of the manufacturing processes involved with the production of steel and iron materials. A step certification is a process under which each handler (supplier, fabricator, manufacturer, processor, etc.) of the iron and steel products certifies that its step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. A certification should include the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a manufacturer’s responsible party. Attached in Appendix 2 is a sample step certification.

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes for the product and for its iron and steel components occurred in the United States. The EPA states that additional documentation may be needed if the certification lacks important information and recommends step certification as the best practice. A sample final manufacturer certification is attached in Appendix 2.

The Prime Contractor may document that incidental and generally low cost components, as defined in Appendix 1, are compliant with AIS requirements under the De Minimis Waiver issued by the EPA. For these items, the Contractor must provide the Owner with documentation of costs for these items, including invoices, and a report of types and categories of materials to which the waiver is applied, the total cost of incidental components covered by the waiver for each category, and the calculations by which the total cost of materials incorporated into the project was determined. A sample De Minimis report is attached in Appendix 2.

Contractor, supplier, and manufacturer records are subject to review and audit by the EPA, its Inspector General, and other federal authorities.

Failure to comply with these requirements may delay, limit, or prevent the disbursement of SRF funds to the Owner. Violations of AIS requirements will require correction by the Contractor as determined by the Owner and Engineer, including replacement of deficient products with compliant products and compensation for costs and other damages that may result. Violations may also subject the Owner, the Contractor, and suppliers to other enforcement actions within the discretion of the EPA and other federal authorities.

The Act permits EPA to issue waivers for a case or category of cases in which EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the US will increase the cost of the overall project by more than 25 percent. The Contractor should notify the Owner and Engineer immediately if it finds that a waiver may be required.

By submitting a bid for this project and by executing this construction contract, the Contractor acknowledges to and for the benefit of the Owner and the state of Georgia that it understands that the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund or the Drinking Water State Revolving Fund and that Federal law authorizing these Funds contains provisions commonly known as "American Iron and Steel" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Owner and the state of Georgia that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Owner or the state of Georgia. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Owner or the state of Georgia to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Owner or the state of Georgia resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the state of Georgia or any damages owed to the state of Georgia by the Owner). The Owner and the Contractor agree that the state of Georgia, as a lender to the Owner for the funding of its project, is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the state of Georgia.

Appendix 1 – Definitions

For purposes of the Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) projects that must comply with the AIS requirement, an iron or steel product is one of the following made primarily of iron or steel that is permanently incorporated into the project:

Lined or unlined pipes or fittings;
Manhole Covers;
Municipal Castings (defined in more detail below);
Hydrants;
Tanks;
Flanges;
Pipe clamps and restraints;
Valves;
Structural steel (defined in more detail below);
Reinforced precast concrete (defined in more detail below); and
Construction materials (defined in more detail below).

Product primarily of iron or steel: The product must be made of greater than 50% iron or steel, measured by cost. If one of the listed products is not made primarily of iron or steel, United States (US) provenance is not required, except as required for reinforced precast concrete. If a product is composed of more than 50% iron or steel, but is not listed in Section 436 (a) (2) of the Act, it is not required to be produced in the US. Alternatively, the iron or steel in such a product can be sourced from outside the US.

Steel: An alloy that includes at least 50 percent iron and between 0.02 and 2 percent carbon and may include other elements. Other alloys of iron are not required to be produced in the US.

Produced in the United States: Production in the US of the iron or steel products used in the project requires that all manufacturing processes, including application of coatings, must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives. All manufacturing processes includes processes such as melting, refining, forming, rolling, drawing, finishing, fabricating and coating. Further, if a domestic iron and steel product is taken out of the US for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the material(s), if any, being applied as a coating are similarly not covered. Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components do not have to be of domestic origin.

Municipal Castings: Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings include access hatches, ballast screen, benches, bollards, cast bases, cast iron hinged hatches, cast iron riser rings, catch basin inlets, cleanout/monument boxes, construction covers and frames, curb and corner guards, curb openings, detectable warning plates, downspout shoes, drainage grates, frames & curb inlets, inlets, junction boxes, lampposts, manhole covers, rings & frames, risers, meter boxes, steel hinged hatches, steel riser rings, trash receptacles, tree grates, tree guards, trench grates, and valve boxes.

Structural Steel: Structural steel is rolled flanged shapes, having at least one dimension of their cross-section 3 inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

Reinforced Precast Concrete: While reinforced precast concrete may not be at least 50% iron or steel, in this particular case, the reinforcing rebar must be produced in the US and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the US. The cement and other raw materials used in concrete production are not required to be of domestic origin. If the reinforced concrete is cast at the construction site, the reinforcing rebar is considered to be a construction material and must be produced in the US.

Construction Materials subject to AIS: Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. This includes, but is not limited to, the following products: welding rods, wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, gates, and screens.

Construction Materials not subject to AIS: Mechanical and/or electrical components, equipment and systems are not considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

The following examples, including their appurtenances necessary for their intended use and operation, are NOT considered construction materials: pumps, motors, gear reducers, drives, variable frequency drives (VFDs), mixers, blowers/aeration equipment, compressors, meters, electric/pneumatic/manual accessories used to operate valves (such as valve actuators), gates, motorized screens (such as traveling screens), sensors, controls, switches, supervisory control and data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, dewatering equipment, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, and analytical instrumentation.

Items temporarily used during construction, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel. For example, trench boxes or scaffolding are not considered construction materials subject to AIS requirements.

Incidental Components compliant with AIS under the De Minimis Waiver: This waiver permits the use of de minimis incidental components that may otherwise be prohibited under AIS. These de minimis items may cumulatively comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into the project. The cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into the project.

These items are miscellaneous, generally low-cost components that are essential for, but incidental to, the construction and are permanently incorporated into the project. For many of these incidental components, the country of manufacture and the availability of alternatives are not always readily or reasonably identifiable prior to procurement in the normal course of business. For other incidental components, the country of manufacture may be known, but the miscellaneous character in conjunction with the low cost, individually and in total, as typically procured in bulk, mark them as properly incidental. Examples of incidental components include small washers, screws, fasteners (i.e., nuts and bolts), miscellaneous wire, corner bead, ancillary tube.

Examples of items that are not incidental and are not covered by the De Minimis Waiver include significant process fittings (i.e., tees, elbows, flanges, and brackets), distribution system fittings and valves, force main valves, pipes for sewer collection and/or water distribution, treatment and storage tanks, large structural support structures.

Items covered as compliant under this waiver must be documented in a report to the Owner to demonstrate that they are both incidental and that they fall within the cost allowances of this waiver. The costs of these items must be documented by invoices. The report must include a listing of types and categories of materials to which the waiver is applied, the total cost of incidental components covered by the Waiver for each category, and the calculations by which the total cost of materials incorporated into the project was determined.

Appendix 2 – Sample Certifications

Step Certification

The following information is provided as a sample letter of step certification for American Iron and Steel compliance. Documentation must be provided on company letterhead. This is to be provided by each handler (supplier, fabricator, manufacturer, processor, etc.). Each time a step in the manufacturing process takes place, the handler delivers its work along with a certification of its origin.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (Insert project name and SRF number)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

List of items, products and/or materials:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

Appendix 2 – Sample Certifications

Final manufacturer certification

The following information is provided as a sample letter of the final manufacturer to certify American Iron and Steel compliance for the entire manufacturing process. Documentation must be provided on company letterhead.

Date

Company Name
Company Address
City, State Zip

Subject: American Iron and Steel Certification for Project (Insert project name and SRF number)

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement of P.L. 113-76 and as mandated in EPA's State Revolving Fund Programs.

List of items, products and/or materials:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

Appendix 2 – Sample Certifications Contractor De Minimis Report

Owner: (Owner Name)

SRF Project No: (SRF Number)

Project Description: (Contract title or brief description)

Date: (Date of report)

Submitted by (name & title): (Contractor representative)
Company Name

LIST OF MATERIALS COST OR CATEGORIES OF MATERIALS PERMANENTLY INCORPORATED INTO THE PROJECT

Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00

Total Permanent Materials **\$10,000.00**

1 % of total material cost	\$100.00	Maximum cost for individual item waived
5 % of total material cost	\$500.00	Maximum cumulative cost for category waived

LIST OF MATERIALS COST COMPLIANT OR CATEGORIES OF MATERIALS (Yes/No) COVERED BY DE MINIMIS WAIVER

Category or Item	\$100.00	Yes
Category or Item	\$100.00	Yes
Category or Item	\$100.00	Yes
Category or Item	\$100.00	Yes
Category or Item	\$100.00	Yes

Total De Minimis Items **\$500.00** **Yes**

INVOICES ATTACHED FOR DE MINIMIS ITEMS.

Appendix 3 – P.L. 113-76, Consolidated Appropriations Act, 2014

The Act states:

Sec. 436 (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j–12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency’s capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

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SECTION 09800

STEEL WATER TANK PAINTING

PART 1 - GENERAL

1.1 SCOPE

- A. Work covered within this section includes the cleaning, painting and disinfection of all interior and exterior surfaces of the elevated water storage tank, including ladders, vents, balcony, overflow pipe and handrails.
- B. The Contractor shall paint the City of Flowery Branch Logo as shown on the plans on two sides of the tank, with exact side to be field determined. The City will provide the actual color descriptions to the contractor.
- C. It is the Contractor's responsibility to assure that surrounding buildings, vehicles and structures are not damaged or sprayed with paint, regardless of the environmental conditions. If buildings, vehicles or structures are damaged due to the painting, it is the Contractor's responsibility repair and/or replace the items damaged.

1.2 SUBMITTALS

- A. Submit to the Owner's Representative, in accordance with Division 1, all copies of materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Product Data: Submit manufacturer's descriptive data fully describing each product including solids by volume and un-thinned volatile organic compounds (VOC)'s. Include manufacturer's recommendations for mixing, thinning, and curing.
 - 2. Certificates: Submit manufacturers certified test reports confirming compliance with the specified performance requirements under Paragraph 1.3.
 - 3. Colors: Submit 4 color charts for color selection.
 - 4. Lead Content: Submit manufacturer's certification that products to be supplied are lead free (less than 600 ppm lead).

1.3 REFERENCE STANDARDS

- A. American Water Works Association
 - 1. AWWA D100 – Standard for Welded Steel Tanks for Water Storage
 - 2. AWWA D102 – Standard for Painting Steel Water Storage Tanks
 - 3. AWWA C652 – Standard for Disinfection of Water Storage Facilities
- B. National Sanitation Foundation
 - 1. [NSF 600](#) – Material in Contact with Potable Water
- C. Steel Structures Painting Council Manual – Volume 1 – Good Painting Practice
- D. Steel Structures Painting Council Manual – Volume 2 – Systems and Specifications
- E. Federal Test Methods for the Performance of Paints and Coatings.

1.4 QUALITY ASSURANCE

A. Contractor Qualifications

1. The Contractor shall have three years practical experience and successful history in the Application of specified product to surfaces of steel water tanks. Upon request, he shall substantiate this requirement by furnishing a list of references and job completions.
2. The Contractor shall submit with his bid a written statement by the coatings manufacturer stating that the Contractor is familiar with the materials specified and has workers capable of performing the work specified herein.
3. The personnel performing the work shall be knowledgeable and have the required experience and skill to adequately perform the work for this project, in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting".

B. General

1. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Engineer.
2. Materials for each coating system shall be those of a single manufacturer. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.
3. All prime, intermediate and finish coating materials shall be applied in different color shades.
4. The Contractor shall obtain the approval of the Engineer of the steel surface preparation and of each coat of paint prior to applying succeeding coats. Such approval will not relieve the Contractor of the obligations stated within.
5. The Contractor shall record environmental conditions at the beginning of each daily operation, thirty minutes before painting begins and every hour during painting operations.

C. Surface Preparation

1. Surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces: SSPC-VIS 1-89", ASTM Designation D2200-95, "Pictorial Surface Preparation Standards for Painting Steel Surfaces", ASTM D 4417-91, Method A and/or Method C "Field Measurement of Surface Profile of Blast Cleaned Steel" or NACE Standard RP0287-87 "Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape". In all cases the written standard shall take precedence over the visual standard. In addition, NACE Standard RP0178-91, "Fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Service", along with the Visual Comparator, shall be used to verify the surface preparation of welds.

D. No coating or paint shall be applied when:

1. The surrounding air temperature or the temperature of the surface to be coated or painted is below the minimum surface temperature for the products specified herein.
2. Rain, snow, fog or mist is present.
3. The surface temperature is less than 5F above the dew point,
4. The air temperature is expected to drop below the minimum temperature for the products specified within six hours after application of coating. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables.

5. If any of the above conditions are prevalent, coating or painting shall be delayed or postponed until conditions are favorable. The day's coating or painting shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.
- E. Thickness and Holiday Checking:
 1. Thickness of coatings and paint shall be checked with a non-destructive, magnetic-type thickness gauge, as per SSPC-PA 2 "Measurement of Dry Film Thickness with Magnetic Gages". References in PA 2 which allow 80% of the minimum thickness specified are not acceptable. Use an instrument such as a Tooke Gauge if a destructive test is deemed necessary by the Engineer.
 2. The integrity of interior coated surfaces shall be checked with a low voltage holiday detector in accordance with NACE Standard RP0188. Non-destructive holiday detector shall not exceed 67.5 volts, nor shall destructive holiday detector exceed the voltage recommended by the manufacturer of the coating system. A solution of 1 ounce non-sudsing type wetting agent, such as Kodak Photo-Flo, and 1 gallon of tap water shall be used to perform the holiday testing. All pinholes and/or holidays shall be marked and repaired in accordance with the manufacturer's printed recommendations and retested. No pinholes or other irregularities will be permitted in the final coating.
- F. The contractor shall furnish, until final acceptance of coating and painting is accepted, inspection devices in good working condition for detection of holidays and measurement of dry film thickness of coating and paint. The Contractor shall also furnish U.S. Department of Commerce, National Bureau of Standards certified thickness calibration plates and/or plastic shims, depending upon the thickness gauge used, to test the accuracy of dry film thickness gauges and certified instrumentation to test the accuracy of holiday detectors. Dry film gauges and holiday detectors shall be made available for the Engineer's use at all times until final acceptance of application. Holiday detection devices shall be operated in the presence of the Engineer.
- G. Inspection for this project shall consist of 'hold point' inspections. The Engineer or his representative shall inspect the surface prior to abrasive blasting, after abrasive blasting but prior to application of coating materials, and between subsequent coats of material. Final inspection shall take place after all coatings are applied, but prior to placing the tank in service. Contractor will insure that sufficient rigging is in place so that the Engineer or his representative shall be able to conduct the required inspections.
- H. Warranty inspection shall be conducted during the eleventh month following acceptance of all coating and painting work. All defective work shall be repaired in accordance with this specification and to the satisfaction of the Engineer and/or Owner.
- I. [A 15-year gloss and color retention warranty for the exterior topcoat will be issued from the coating manufacturer to the owner after the job has been completed and all punch list items have been taken care of.](#)
- J. Do not paint over nameplates, tagging, or other identification devices.
- K. Contractor shall hire a third-party to conduct the testing in presence of the Owner Engineer. See Section 13412 for additional information.

1.5 SAFETY AND HEALTH REQUIREMENTS

A. General

1. The Contractor shall comply with all regulations as established by the Occupational Safety and Health Act and other government authorities.
2. In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical

bulletins and manuals, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working on or about the project site.

- B. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. In addition, workers engaged in or near the work during sandblasting shall wear eye and face protection devices and air purifying halfmask or mouthpiece respirators with appropriate filters. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation shall reduce the concentration of air contaminants to a degree a hazard does not exist. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protection devices.
- E. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the inspector.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.

1.6 PRODUCT DELIVERY, STORAGE & HANDLING

- A. All materials shall be brought to the jobsite in original sealed containers. They shall not be used until the Engineer has inspected the contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- B. All coatings and paints shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings and paints must be stored to conform with City, County, State and Federal safety codes for flammable coating or paint materials. At all times coatings and paints shall be protected from freezing.

PART 2 - MATERIALS

2.1 ACCEPTABLE MANUFACTURERS

- A. Materials specified are those that have been evaluated for the specific service. Products of the Tnemec Company, Inc. are listed to establish a standard of quality. Equivalent materials of other manufacturer's may be submitted on written approval of the Engineer. As part of the proof of equality, the Engineer will require at the cost of the Contractor, certified test reports from a nationally known, reputable and independent testing laboratory conducting comparative tests as directed by the Engineer between the product specified and the requested substitution.
- B. Requests for substitution shall include manufacturer's literature for each product giving name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified lab test reports showing results to equal the performance criteria of the products specified herein. In addition, a list of five projects shall be submitted in which each product has been used and rendered satisfactory service.
- C. All requests for product substitution shall be made at least 10 days prior to the bid date.

- D. Any material savings shall be passed to the owner in the form of a contract dollar reduction.
- E. Manufacturer's color charts shall be submitted to the Engineer at least 30 days prior to coating and/or paint application. General Contractor and Painting Contractor shall coordinate work so as to allow sufficient time (normally seven to ten days) for paint to be delivered to the job site.

2.2 GENERAL REQUIREMENTS

- A. All materials shall be lead-free as defined by the Consumer Product Safety Act, Part 1303.
- B. All zinc dust pigment contained in any zinc-rich material shall meet the requirements of ASTM D 520 Type III as regards zinc content and purity.
- C. All materials for the interior wetted portion of the tank shall meet the requirements of ANSI/NSF [Standard 600](#) for potable water contact.
- D. All high gloss clear coat products shall incorporate the use of a fugitive dye to aid in the proper application and coverage of such coats.
- E. All catalyzed polyurethane products shall meet the minimum requirements of SSPC Paint Specification Number 36, Level 3 Performance Level.

2.3 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

2.4 SHOP-APPLIED PRIMER – BOTH SIDES OF PLATE

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Anchor profile shall be primarily angular and irregular, as produced by a blend of grit and shot.
- C. Zinc-Rich Primer: Themec Series 94 Hydro-Zinc applied at 2.5 to 3.5 dry mils. Thin only with approved thinner, Themec 41-49 or 41-3 Thinner.

2.5 FIELD-APPLIED TANK INTERIOR COATING SYSTEMS

- A. [Two Coat](#) System:
 - 1. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
 - 2. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP10 Near White Metal Blast Cleaning and above.
- 3. Coating System:

1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
2. Field 1st Coat: Tnemec Series 21-WH16 Off White applied at 12.0 to 16.0 dry mils. Thin only with approved thinner, Tnemec 41-88 Thinner.
3. Total dry film thickness shall be a minimum of 14.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
4. For cold weather applications, Tnemec Series 21 can be applied down to 35 degrees

2.6 FIELD-APPLIED TANK EXTERIOR COATING SYSTEMS

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP6 Commercial Blast Cleaning and above.
- C. Coating System:
 1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
 - a. 1st Field Coat: Tnemec Series 1075 -Color applied at 2.0 to 3.0 dry mils. Thin only with approved thinner. 41-39 for brush or roller.
 - b. 2nd Field Coat: Tnemec Series 700-Color Endura-Shield applied at 2.0 to 3.0 dry mils. Thin only with approved thinner, , 41-63 for brush or roller.
 2. Total dry film thickness shall be a minimum of 6.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
 3. The finish color of the exterior shall match the existing tank color.

PART 3 - EXECUTION

3.1 GENERAL

- A. All surface preparation, coating and painting shall conform to applicable standards of the Steel Structures Painting Council, NACE International and the manufacturer's printed instructions. Materials applied to the surface prior to the approval of the Engineer shall be removed and re-applied to the satisfaction of the Engineer at the expense of the contractor.
- B. All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be coordinated with the Engineer.
- C. The Contractor shall provide a supervisor at the work site during cleaning and application operations. The supervisor shall have the authority to sign and change orders, coordinate work and make decisions pertaining to the fulfillment of the contract.

- D. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the coating or paint must be removed by washing with clean rags dipped in an approved cleaning solvent and wiped dry with clean rags.
- E. Coating and painting systems include surface preparation, prime coating and finish coatings. Unless otherwise approved in writing by the Engineer, prime coating shall be field applied. Where prime coatings are shop applied, the Contractor shall instruct suppliers to provide the prime coat compatible with the specified finish coat. Any off-site work which does not conform to this specification, is subjected to damage during transportation, construction or installation shall be thoroughly cleaned and touched-up in the field as directed by the Engineer. The Contractor shall use repair procedures which insure the complete protection of all adjacent primer. The specified repair method and equipment may include wirebrushing, hand or power tool cleaning, or dry air blast cleaning. In order to prevent injury to surrounding painted surfaces, blast cleaning may require use of lower air pressure, smaller nozzle and/or abrasive blast particles, or shorter blast nozzle distances from surface shielding and masking. If damage is too extensive or uneconomical to touch-up, the entire item shall be blasted and then coated or painted as directed by the Engineer.
- F. The Contractor's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Contractor's equipment shall be subject to approval of the Engineer.
- G. Application of the first coat shall follow immediately after surface preparation and cleaning and stripe coat, if applicable, before rust bloom occurs or the same day, whichever is less. Any cleaned areas not receiving first coat within this period shall be recleaned prior to application of first coat. Use of dehumidification equipment shall be first reviewed by the Engineer and coatings manufacturer prior to deviating from this provision.
- H. Prior to assembly, all surfaces made inaccessible after assembly shall be prepared as specified herein and shall receive the coating or paint system specified.

3.2 SURFACE PREPARATION

- A. The latest revision of the following surface preparation specifications of the Steel Structures Painting Council (SSPC) shall form a part of this specification. The summaries listed below are for informational purposes; consult the actual SSPC specification for full detail.
 - 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods which involve a solvent or cleaning action.
 - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mil scale and other detrimental foreign matter to a degree specified by hand chipping, scraping, sanding and wirebrushing
 - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mil scale and other detrimental foreign matter by power wirebrushing, power impact tools or power sanders.
 - 4. White Metal Blast Cleaning (SSPC-SP5/NACE No. 1): Air blast cleaning to a gray-white uniform metallic color until each element of surface area is free of all visible residues.
 - 5. Commercial Blast Cleaning (SSPC-SP6 NACE No. 3): Air blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 - 6. Brush-Off Blast Cleaning (SSPC-SP7 NACE No. 4): Air blast cleaning to remove loose rust, loose mil scale and other detrimental foreign matter to a degree specified.
 - 7. Near-White Metal Blast Cleaning (SSPC-SP10 NACE No. 2): Air blast cleaning until at least 95% of each element of surface area is free of all visible residues.

8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Differs from SSPC-SP3 in that it requires more thorough cleaning and a surface profile not less than 1 mil.
- B. Slag, weld metal accumulation and spatters not removed by the Fabricator, Erector or Installer shall be removed by chipping and/or grinding. All sharp edges shall be peened, ground or otherwise blunted as required by the Engineer. All grinding and finishing of welds, edges, etc. shall be performed prior to solvent cleaning and abrasive blasting. Welds shall be prepared as per NACE Standard RP0178 for all interior and exterior surfaces:
 1. Butt Welds: Shall be ground smooth and free of all defects, designation "D".
 2. Lap Welds: Shall be ground smooth and blended., designation "D".
 3. Fillet Welded Tee Joint: Shall be ground smooth and blended, designation "D"
- C. All recycled abrasives used in automated shop blasting shall be clean as per SSPC-AB2 "Cleanliness of Recycled Ferrous Metallic Abrasives". All shop blasting utilizing centrifugal-type equipment shall utilize a blend of shot and grit (maximum of 80% shot). In no case shall steel shot alone be permitted. After blast cleaning, the surface of the steel shall appear angular and irregular. Should the surface appear peened or undulating, the steel shall be reblasted to achieve the correct appearance.
- D. All welds shall be neutralized with a suitable chemical compatible with the specified coating or paint.
- E. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Blast nozzles shall be venturi-type nozzles with a minimum pressure at the nozzle of 90 psi.
- F. Particle size of abrasives used in blast cleaning shall be that which will produce a 1.5 - 2.5 mil (37.5 microns - 65.0 microns) surface profile or in accordance with recommendations of the manufacturer of the specified coating or paint system to be applied. If the profile of the blasted steel exceeds the profile specified above, the Contractor shall be required to do one or both of the following:
 1. Reblast the surface using a finer aggregate in order to produce the required profile.
 2. Apply a thicker prime coat, if possible given the limitations of the products being applied, in order to adequately cover the blast profile
- G. All shop-primed surfaces shall receive a uniform and thorough sweep-blast as per SSPC-SP7/NACE No. 4. All bare metal areas shall be abrasive blasted as per SSPC-SP10/NACE No. 2 Near-White Blast Cleaned for interior surfaces and SSPC-SP6/NACE No. 3 Commercial Blast Cleaning for all exterior surfaces.
- H. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants that would interfere with adhesion of coating or paint and shall not be reused unless specifically approved in writing by the Engineer.
- I. During blast cleaning operations, caution shall be exercised to insure that existing coatings or paint are not exposed to abrasion from blast cleaning.
- J. The Contractor shall keep the area of his work and the surrounding environment in a clean condition. He shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the accomplishment of the work, the operation of the existing facilities or to the surrounding environment.
- K. Blast cleaned surfaces shall be cleaned prior to application of specified coatings or paint. All surfaces shall be free of dust, dirt, and other residue resulting from the abrasive blasting operation. No coatings or paint shall be applied over damp or moist surfaces.
- L. Specific Surface Preparation: Surface preparation for the specific system shall be as noted in Sections 2.04, 2.05, and 2.06.

3.3 APPLICATION, GENERAL

- A. Coating and paint application shall conform to the requirements of the Steel Structure Painting Council Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting".
- B. Thinning shall be permitted only as recommended by the manufacturer and approved by the Engineer, and utilizing the thinners stated in Sections 2.04, 2.05, and 2.06..
- C. Each application of coating or paint shall be applied evenly, free of brush marks, sags, runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coatings and paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.
- D. Protective coverings or drop cloths shall be used to protect floors, fixtures and equipment. Care shall be exercised to prevent coatings or paints from being spattered onto surfaces which are not to be coated or painted. Report to the Engineer surfaces from which materials cannot be satisfactorily removed.
- E. When two coats of coating or paint are specified, where possible, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.
- F. Film thickness per coat as specified in Sections 2.04, 2.05, 2.06, and 2.07 are the minimum required. If roller application is deemed necessary, the Contractor shall apply additional coats as to achieve the specified thickness.
- G. All material shall be as specified.

3.4 COATING SYSTEMS APPLICATION

- A. After completion of surface preparation as specified for the specific system, materials shall be applied as noted in Sections 2.04, 2.05, 2.06, and 2.07.
- B. Care shall be taken so as to eliminate overspray and dry spray on the tank interior. Where such conditions are encountered, the surface shall be cleaned of all over spray and dry spray prior to the application of the succeeding coat.

3.5 DISINFECTION

- A. Disinfection shall be completed as described in Specification 13412. Disinfection of interior surfaces shall be performed in the presence of the Engineer in accordance with all the requirements of applicable AWWA Standards and regulatory agencies.
- B. Disinfection shall be performed after protective coatings have been applied to the interior surfaces and allowed to thoroughly cure.
- C. Prior to disinfecting, the complete interior shall be washed down with clean water and thoroughly flushed out.
- D. All interior surfaces shall be thoroughly washed with a solution having a minimum chlorine content of 50 PPM. Chlorine solution accumulated on the bottom shall be drained to waste. Rinsing with clean water is not required.

3.6 SOLVENT VAPOR REMOVAL

- A. All solvent vapors shall be completely removed by suction-type exhaust fans and blowers before placing tank in operating service.

- B. All solvent vapors will be exhausted both during and after coating application at a minimum rate of one air change every four hours to allow the proper curing of the coating material. High rates of production may require an increase in ventilation.
- C. Ventilation shall be continued until such time as the coating has reached "full cure" as specified by the coating manufacturer.

3. 7 CLEAN UP

- A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Engineer. Coating or paint spots or oil stains upon adjacent surfaces shall be removed and the jobsite cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired or refinished to the satisfaction of the Engineer at no cost to the Owner.

END OF SPECIFICATION 09800

**SECTION 13412
ELEVATED STORAGE TANK 1**

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor shall be responsible for all labor, materials and equipment necessary for the design, fabrication, construction, painting, disinfection and testing of an elevated welded carbon steel water storage tank supported by a steel support pedestal, commonly referred to as a "Spheroid or Pedesphere".
- B. Design and construction of the elevated tank shall conform to all requirements of AWWA D100-latest edition Standard for Welded Carbon Steel Tanks for Water Storage, except as modified by the requirements of these contract documents.
- C. The Contractor shall obtain all necessary permits and licenses required for the construction of the elevated water tank.

1.2 SUBMITTALS

- A. Submit to the Owner's Consultant, in accordance with the Division 1, copies of all materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. A list of five similar elevated tanks constructed within the last ten years including the Owner, tank capacity and the Engineer.
 - 2. A foundation design drawing showing design and dimensions of the concrete and reinforcing steel. The drawings and calculations must be designed by and bear the stamp of a professional engineer registered in the State of Georgia.
 - 3. The Contractor shall provide Drawings and design calculations for the elevated steel tank. Drawings shall show the size and location of all structural components and reinforcement, the required strength and grade of all materials, and the size and arrangement of principle piping and equipment. The drawings and calculations shall bear the certification of a professional Engineer licensed in the State of Georgia. The design coefficients and resultant loads for snow, wind and seismic forces, and the methods of analysis shall be documented.
 - 4. OSHA approved climbing equipment.
 - 5. Tank accessories.
 - 6. Lightening protection.
- B. Test Reports
 - 1. Shop test results.
 - 2. Field pressure /leakage tests.
 - 3. Independent visual and x-ray seam reports.
- C. Certificates

1. Prior to shipment, submit a certified affidavit of compliance from the manufacturer that the tank has been manufactured in accordance with AWWA and ASTM standards and requirements specified herein.

1.3 REFERENCE STANDARDS

- A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.
- B. American Water Works Association (AWWA)
 1. AWWA D100-latest edition - Standard for Welded Steel Tanks for Water Storage.
 2. AWWA D102 - Standard for Painting Steel Water Storage Tanks.
 3. AWWA C652 - Standard for Disinfection of Water Storage Facilities.
- C. American Welding Society
- D. NSF (National Sanitation Foundation) 61 - Materials in contact with Potable Water.
- E. Steel Structures Painting Council Manual - Volume 1 - Good Painting Practice.
- F. Steel Structures Painting Council Manual - Volume 2 - Systems and Specifications.
- G. ACI 318 - Building Code Requirements for Reinforced Concrete
- H. ACI 301 – Standard Specification for Structural Concrete
- I. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.4 QUALITY ASSURANCE

- A. All products specified under this Section shall be standard products of proven ability as manufactured by competent organizations that are fully experienced, reputable and qualified in the manufacture of the products to be furnished. The products shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
- B. All products furnished under this Section shall be new and unused and shall be the standard products of manufacturers having a successful record of manufacturing and servicing the equipment specified herein for a minimum of five (5) years.
- C. Pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.
- D. The Owner's Consultant may also make inspection of products after delivery. Products shall be subject to rejection at any time due to failure to meet any of the Specification requirements, even though submittal data may have been accepted previously. Products rejected after delivery shall be marked for identification and shall be removed from the job site at once.

PART 2 – PRODUCTS

2.1 GENERAL

- A. The materials, design, fabrication, erection, welding, testing and inspection of the steel tank shall be in accordance AWWA D100-latest edition

- B. The tank foundation shall be designed in accordance with AWWA D100-latest edition and ACI 318.
- C. The elevated steel water tank shall consist of a pedisphere tank with the following characteristics:
 - 1. The design operating capacity of the storage tank will be 250,000 gallons.
 - 2. The capacity of the tank, low to high water level, shall be contained within a maximum operation range from 30 feet to 32 feet plus or minus 2.5 feet.
 - 3. The height of the tank, top of foundation to the high water level shall be 155 feet.
 - 4. The top of the foundation shall be at elevation 1190.0 feet-msl.
- D. The following factors shall be used for the design of seismic loads and shall be in accordance with AWWA D100-latest edition:
 - 1. Seismic Zone 2A
- E. Wind pressure shall be determined in accordance with AWWA D100-96 (latest edition), Section 3.1.4 for a 100 MPH wind velocity.
- F. Snow Load shall be determined in accordance with AWWA D100-96 (latest edition), Section 3.1.3 for 25 psf minimum loading.
- H. A geotechnical investigation has been conducted for this report and is included in Section 02010 of the specifications.
- G. The minimum thickness for any part of the structure shall be 3/16 inch for parts not in contact with water and ¼ inch for parts in contact with water, including the roof plates. All portions of the tank including the roof shall be of watertight construction.

2.2 TANK ACCESSORIES

- A. The following accessories shall be provided in accordance with these specifications. All items shall be in full conformity with the current applicable OSHA safety regulations and the operating requirements of the structure.
- B. Ladders
 - 1. Access ladders shall be included at the following locations:
 - a. The tower ladder shall extend from grade to upper platform and from upper platform to tank floor manhole. Upper platform to steel tank roof mounted on access tube interior.
 - b. Exterior of access tube to provide access from roof manhole to the tank floor.
 - 2. Ladder side rails shall be a minimum 3/8 inch by 2 inches with a 16 inch clear spacing. Rungs shall be not less than 3/4 inch, round or square, spaced at 12 inch centers. The surface of the rungs shall be knurled, dimpled or otherwise treated to minimize slipping. At platforms or landings, the ladder shall extend a minimum 4 feet above the platform. Ladders shall be secured to adjacent structures by brackets located at intervals not exceeding 10 feet. Brackets shall be of sufficient length to provide a minimum distance of 7 inches from the center of the rung to the nearest permanent object behind the ladder.
 - 3. Ladders shall be equipped with a fall arrest system meeting OSHA regulations. The system shall be supplied complete with a safety harness, locking mechanisms, lanyards

and accessories for two persons. The safety harness equipment shall be supplied at the start of the project and turned over to the Engineer.

C. Upper Platform

1. An upper platform shall be located at the top of the support pedestal to provide access from the pedestal ladder to the roof access ladder located on the interior of the access tube. Platform shall include a 24" x 36" access hatch with opening to allow ladder and safety device to continue 48" minimum above the platform floor.
2. A roof handrail shall be provided surrounding the roof manholes, vents, and other roof equipment. Handrail shall comply with OSHA requirements.

D. Roof Hatches

1. Provide two access hatches on the roof of the tank. One hatch shall be 30 inch diameter and allow access from the roof to the interior of the tank. The hatch will be hinged and equipped with a hasp for locking. The hatch cover shall have a 2 inch downward edge. The second hatch will be 24 inch diameter and flanged with a removable cover so constructed that an exhaust fan may be connected for ventilation during painting operations. The openings shall have a minimum 4 inch curb.
2. Provide one 30 inch diameter hinged access hatch on the access tube roof. The hatch cover shall have a 2 inch downward edge.

E. Tank Vent

1. The tank vent should be centrally located on the tank roof above the maximum weir crest elevation. The tank vent shall have an intake and relief capacity sufficiently large that excessive pressure or vacuum will not develop during maximum flow rate. The vent shall be designed, constructed and screened so as to prevent the ingress of wind driven debris, insects, birds and animals. The vent shall be designed to operate when frosted over or otherwise clogged. The screens or relief material shall not be damaged by the occurrence and shall return automatically to operating position after the blockage is cleared.

F. Tank Floor Manhole

1. A minimum 18 x 24 inch elliptical access manhole shall be provided in the tank bottom accessible from the upper platform or from a ladder that extends from the platform to the opening. The hatch shall open inward.

G. Pedestal Hatch

1. A 24" diameter manhole shall be located near the top of the pedestal for access to the exterior painter's rail located near the tank/pedestal interface. This opening shall be accessible from the upper pedestal platform.

H. Access Tube

1. A minimum 36" diameter access tube shall be provided for tanks with capacities of 150,000 gallons and less, or 42" diameter access tube on tanks with capacities 200,000 gallons and greater. The access tube will be provided from the top of the pedestal to the tank roof.

I. Rigging

1. Interior and exterior rigging devices shall be provided for painting, inspecting and maintaining the structure and accessories. A continuous bar or tee rail near the top of the exterior support structure shall be provided. The rail may be attached to the support column or steel tank. A painter's rail attached to the roof, pipe couplings with plugs in the

roof or other attachments that provide complete access for painting of tank interior shall be furnished.

J. Piping

1. General

Exterior of pipes exposed to stored water shall be coated with tank interior wet system. Exterior of pipes in the pedestal and base cone shall be coated with tank interior dry system.

2. Inlet/Outlet Piping

Provide a 12 inch diameter standard weight steel inlet/outlet pipe that extends vertically from the base of the pedestal to the bottom of the tank. An expansion joint shall be provided in the vertical section of pipe. The expansion joint should be constructed to accommodate any differential movement caused by settlement or thermal expansion and contraction. Inlet/Outlet pipe shall not extend above the LWL.

3. Overflow

The overflow pipe shall be designed to carry the maximum design flow rate of 350 GPM. The steel overflow pipe will be 8 inch in diameter and shall have a minimum wall thickness of 1/4". A suitable weir shall be provided with the crest at High Water Level. The overflow pipe shall extend down from the weir box through the tank, pedestal, and base cone. The overflow pipe shall penetrate the base cone wall approximately 1 to 2 feet above grade and discharge onto a concrete splash pad. The point of discharge shall have a 45 degree elbow and be equipped with a stainless steel screened end.

K. Interior Floor

1. A concrete slab-on-grade shall be provided inside the base cone. Isolation joints shall be provided at junctions with walls, columns, equipment or piping foundations.

L. Personnel Door

1. A 36" by 80" access door with a flush threshold shall be located in the base of the pedestal cone. A step over threshold is not acceptable. The door shall be fabricated from steel plate with adequate stiffening and specifically designed for use with the tank. The access door will be equipped with handle, drip cover and dead bolt lock. Commercial hollow metal doors and frames are not acceptable

M. Identification Plate

1. A tank identification plate shall be mounted on the tank riser pipe above the access manhole. The identification plate shall be corrosion resistant and contain the following information.
 - a. Tank Contractor
 - b. Contractor's project or file number
 - c. Tank capacity
 - d. Height to High Water Level
 - e. Date erected
 - f. Tank Owner

PART 3 - EXECUTION

3.1 GENERAL

- A. The erection of the steel tank shall comply with the requirements of Section 10 of AWWA D100-latest edition.
- B. All interior lap joints shall be sealed by means of continuous seal welding (not caulking).

3.2 WELDING

- A. All shop and field welding shall conform to AWS and AWWA D100-latest edition, Section 10. Before any welding is performed, the constructor shall make certain that the welders or welding operators have their credentials for acceptance.

3.3 FABRICATION

- A. All fabrication and shop assembly shall conform to the requirements of AWWA D100-latest edition, Section 9, Shop Fabrication.

3.4 ERECTION

- A. Plates subjected to stress by the weight or pressure of the contained liquid shall be assembled and welded in such a manner that the proper curvature of the plates in both directions is maintained. Plates shall be assembled and welded together by a procedure that will result in a minimum of distortion from weld shrinkage.

3.5 TESTING

- A. Testing for both shop and field welds shall be in accordance with AWWA D100-latest edition, Section 11, Inspection and Testing. All testing shall be performed prior to interior and exterior field painting. The testing shall be performed by an independent testing agency with all costs included in the Contractor's bid and paid by the Contractor. The Contractor shall have a third-party weld inspection performed including both at visual and a radiograph inspection per Section 11 of AWWA D100-latest edition.
- B. Paint Inspection and Testing

The Contractor shall have a third-party paint inspection and testing performed at times and locations in the presence of the Owner or Engineer including the prime coat and each of the two paint layers. The Contractor shall bore all cost associated with the third party, but not for the Owner or Engineer. Before the primer coating is applied, verify that the required surface preparation parameters as outlined in AWWA D102-latest edition have been satisfied. The wet film thickness of each coat shall be measured during application. Before application of successive coats, the dry film thickness shall be measured for compliance. The dry film thickness of the total system shall be measured in accordance with SSPC-PA 2. The required number of measurements for conformance to a thickness specified shall conform to Section 8 and SSPC-PA 2 and shall be determined between the Contractor and Owner/Engineer prior to any painting activities. For inside coating systems, the coating on interior wet surfaces below the top capacity level shall be tested and identified in accordance with NACE SP0188. Locations where holiday are detected shall be retested after repair work has been completed. Results of quality control test and records shall be provided to the Owner or Engineer at the end of each testing period. An affidavit of Compliance shall be provided at the end of the project. First-anniversary inspection shall be conducted by the Contractor to determine whether the coating system is performing properly. All areas failing shall be repaired by the Contractor.

3.6 PAINTING

- A. Surface preparation and coating of all steel surfaces shall be in accordance with Section 09800 "Coating System for Steel Water Storage Tanks".
- B. The tank manufacturer shall include a two logos painted on the sides of the bowl consisting of "City of Flowery Branch" along with their "symbol". The Owner will furnish a jpeg of the compete logo and assign the sides for the logo during the shop drawing period. The Contractor shall submit logo painting details including actual size and methods for review.

3.7 DISINFECTION

- A. Upon testing and painting, the tank and all connecting piping shall be flushed and disinfected prior to being put into service. Disinfection shall be in accordance with AWWA C-652.
- B. Only potable water shall be used as the water supply during disinfection operations.
- C. The Contractor shall use either high-test calcium hypochlorite, sodium hypochlorite solution or liquid chlorine for disinfection. The Contractor shall notify the Engineer prior to disinfection of the storage facility on what form of chlorine shall be used.
- D. One of the following methods shall be used for disinfection of the elevated water tank. The Contractor shall notify the Engineer prior to disinfection which method of disinfection shall be used as outlined in AWWA C-652, Section 4.
 - 1. First Method: After the storage tank has been thoroughly dried, it shall be filled slowly to the overflow level with potable water to which enough chlorine is added to provide a free chlorine residual in the full facility of not less than 10mg/L at the end of the 24-hour period. After the 24-hour retention period, the highly chlorinated water in the storage tank shall be completely emptied (by applying a reducing agent to the wasted water to thoroughly neutralize the chlorine residual in the water), and then refilled with potable water. After refilling, samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 -3 -5, before the tank is placed in or restored to regular service.
 - 2. Second Method: The walls and bottoms of storage tanks shall be thoroughly cleaned to remove all dirt and loose material. A strong chlorine solution (at least 200mg/L) shall be applied to the surface of all parts of the storage facility, including the inlet and outlet piping, that would be in contact with water when the storage facility is full to the overflow elevation. The disinfected surfaces shall remain in contact with the strong chlorine solution for at least 30 minutes, after which potable water shall be admitted. After that, the highly chlorinated water in the tank shall be disposed in an acceptable manner, as stated above, and then refilled with potable water to its overflow level. After refilling, samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 - 3 – 5, before the tank is placed in or restored to regular service.
 - 3. Third Method: Water containing a minimum of 50mg/L chlorine shall be placed in the storage tank to such depth that, when the storage tank is filled with potable water to the overflow level and held full for a period of at least 24 hours, there will be a free chlorine residual of not be less than 2 mg/L. The full storage tank must be allowed to stand for 24 hours. All highly chlorinated water shall then be purged from the drain piping. Samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 – 3 5. The storage tank may be put into service without draining the remaining water in the tank.

3.8 CONCRETE FOUNDATION

- A. A Geotechnical investigation has been carried out at the site and a copy of the report is included with the Contract Documents. Recommendations for the foundation and allowable bearing capacities are defined in this report. The Owner shall retain the services of the Geotechnical consultant to verify the adequacy of the bearing stratum after the Contractor has carried out the excavation and before any concrete or reinforcement is placed. The concrete foundation shall be designed by the Contractor based upon the recommendations in the geotechnical report. The report must provide the allowable soil bearing pressure with appropriate factors of safety, the active and passive earth pressure coefficients, the angle of soils internal friction, its cohesion, unit weight and recommendations for bearing depth and backfill requirements.
- B. The foundation shall be designed and constructed to safely and permanently support the structure. The basis of the foundation construction shall be consistent with the soils investigation data included herein of these specifications. Appropriate changes to construction schedule and price will be negotiated if, during excavation, soil conditions are encountered which differ from those described in geotechnical report. The concrete foundation shall be constructed in accordance with ACI 301. Minimum concrete compressive strength shall be as specified in Section 03000 "Cast-In-Place Concrete".

3.8 PRODUCT GUARANTEE

- A. The tank Contractor shall guarantee its work for a period of three years from the substantial completion date defined in the contract documents to the extent that it will repair any defects caused by faulty design, workmanship or material furnished under the specifications.
- B. All guarantees obtained by the tank Contractor from the manufacturer or installer of paint, equipment or accessories not manufactured by tank Contractor shall be obtained for the benefit of the Purchaser.

END OF SECTION 13412

Date: June 28, 2022

Owner: City of Flowery Branch, Georgia

Project: Elevated Water Tank 1 Improvements

Flowery Branch Bid # 22-008

ADDENDUM NUMBER TWO

1. The following Addendum hereby amends and/or modifies the Contract Documents and any previous addenda as indicated and as issued by Infratec Consultants. All Bidders are subject to the provisions of this Addendum. Bidders shall acknowledge receipt of this Addendum on the Bid Form.
2. In Section 13412 Elevated Storage Tank 1; Section 2.1 General; Paragraph C. 3; change the height of the tank from 155' to 152' to match the drawings.
3. Add Section 15100 – Valves and Accessories to the specifications noted with Addendum No. Two in the headers.

End of Addendum Number Two

Keith Hendrix, PE
404-861-6956
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SECTION 15100

VALVES AND ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

- A. The Contractor shall furnish all tools, equipment, materials, and supplies and shall perform all labor required to furnish and install all valves and appurtenances as indicated on the Drawings, and specified herein.

1.2 RELATED WORK

- A. Instrumentation and Electrical in Divisions 13 and 16.
- B. All valve operators, solenoids, limit switches, etc. located in hazardous areas shall be rated and approved for the area in which it is installed.

1.3 SUBMITTALS

- A. Submit to the ENGINEER, in accordance with Division 1, copies of all materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Certified drawings showing details of construction and dimensions.
 - 2. Descriptive literature bulletins and/or catalogs of each product.
 - 3. The total weight of each item.
 - 4. A complete bill of materials.
 - 5. A valve schedule showing the type and location of all valves.
- B. Certificates
 - 1. For each valve manufactured, tested and/or installed in accordance with AWWA and other standards, submit an affidavit of compliance with the appropriate standards, including certified results of required tests and certification of proper installation.
- C. Manufacturer's assembly instructions.
- D. Complete operating and maintenance instructions shall be furnished for all equipment specified herein accordance with the General Conditions and Division 1.
- E. In the event that it is impossible to conform to certain details of the specifications due to different manufacturing techniques, describe completely all non-conforming aspects.

1.4 REFERENCE STANDARDS

- A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.
- B. American Society for Testing and Materials (ASTM)
- C. American Water Works Association (AWWA)
- D. American National Standards Institute (ANSI)
- E. American Iron and Steel Institute (AISI)

- F. Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS)
- G. National Electrical Manufacturers Association (NEMA)
- H. Underwriters Laboratories (UL)
- I. Factory Mutual (FM)
- J. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.5 QUALITY ASSURANCE

- A. Qualifications
 - 1. All products specified under this Section shall be standard products of proven ability as manufactured by competent organizations that are fully experienced, reputable and qualified in the manufacture of the products to be furnished. The products shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
 - 2. All products furnished under this Section shall be new and unused and shall be the standard products of manufacturers having a successful record of manufacturing and servicing the equipment and systems specified herein for a minimum of five (5) years.
 - 3. These Specifications are intended to give a general description of what is required, but do not cover all details which may vary in accordance with the exact requirements of the products as offered. They are, however, intended to cover the furnishing, delivery, installation, field testing and field calibration of all materials and apparatus as required. Any additional equipment necessary for the proper operation of the proposed installation not specifically mentioned in these Specifications or shown on the Drawings shall be furnished and installed at no change in Contract Price or Time.
 - 4. All products of the same type shall be the product of one manufacturer.
- B. Inspection of products may also be made by the Construction Manager after delivery. Products shall be subject to rejection at any time due to failure to meet any of the Specification requirements, even though submittal data may have been accepted previously. Products rejected after delivery shall be marked for identification and shall be removed from the job site at once.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Reference is made to Section 01600 for additional information.
- B. Packing and Shipping
 - 1. Care shall be taken in loading, transporting and unloading to prevent injury to the valves, appurtenances, or coatings. Equipment shall not be dropped. All valves and appurtenances shall be examined before installation and no piece shall be installed which is found to be defective. Any damage to the coatings shall be repaired as acceptable to the Engineer.
 - 2. Prior to shipping, the ends of all valves shall be acceptably covered to prevent entry of foreign material. Covers shall remain in place until after installation and connecting piping is completed.
 - 3. All valves 3-in and larger shall be shipped and stored on site until time of use with wood or plywood covers on each valve end.

4. Valves smaller than 3-in shall be shipped and stored as above except that heavy cardboard covers may be used on the openings.
 5. Rising stems and exposed stem valves shall be coated with a protective oil film that shall be maintained until the valve is installed and put into use.
 6. Any corrosion in evidence at the time of acceptance by the Owner shall be removed, or the valve shall be removed and replaced.
- C. Storage and Protection
1. Special care shall be taken to prevent plastic and similar brittle items from being directly exposed to the sun, or exposed to extremes in temperature, to prevent deformation. See the individual piping specifications and manufacturer's information for further requirements.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT - GENERAL

- A. The use of a manufacturer's name and/or model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.
- B. Valves and appurtenances shall be of the size shown on the Drawings or as noted and as far as possible equipment of the same type shall be identical and from one manufacturer.
- C. Valves and appurtenances shall have the name of the maker, nominal size, flow directional arrows, working pressure for which they are designed and standard referenced, cast in raised letters or indelibly marked upon some appropriate part of the body. The name of the valve manufacturer, rated working pressure, and size may be stamped on a stainless steel identification plate permanently attached to the valve body or bonnet. Valves specified to conform with AWWA requirements shall have the letter "AWWA" cast upon the valve body or bonnet in raised letters.
- D. Unless otherwise noted, items shall have a minimum working pressure of 150 psi or be of the same working pressure as the pipe they connect to, whichever is higher and suitable for the pressures noted where they are installed.
- E. Buried valves shall be set vertically and in a closed position. An approved valve box constructed of cast iron with a round base shall be provided on each valve. The valve box shall be of the sliding type with a 5 inch shaft and cover shall be slotted for easy removal. The box shall be set vertical and centered over the valve operating nut with the top adjusted to the finish grade. A 2'x2'x4" concrete pad shall be poured around each valve box.
- F. Where required for satisfactory operation of valves, provide extension stems within 24" of the finished grade for buried valves, stainless steel extension stems for exposed valves, cast iron stem guides, floor boxes, handwheels, floor stands, and other appurtenances.

2.2 VALVE ACTUATORS - GENERAL

- A. The valve manufacturer shall supply and integrally, rigidly mount all actuators, including any type of manual or powered actuators, on valves at the factory. The valves and their individual actuators shall be shipped as a unit.

- B. Unless otherwise noted, valves shall be manually actuated; non-buried valves shall have an operating wheel, handle or lever mounted on the operator; buried valves and those with operating nuts shall have a non-rising stem with an AWWA 2-in nut.
- C. Except as otherwise shown on the Drawings or specified herein, all valves 3-in diameter or larger, with the valve center line located 7-ft or more above the operating floor, shall be provided with chain wheel operators complete with chain guides and hot dipped galvanized steel chain, which loop within 4-ft of the operating floor.
- D. Each operating device shall have cast on it the word "OPEN" and an arrow indicating the direction of operation.
- E. Floor boxes for operating nuts recessed in concrete shall be standard cast iron type, cast-in-place, with fastening top by Clow or equal.
- F. Stem guides shall be of the adjustable wall bracket type, bronze bushed, with maximum spacing of 10-ft as manufactured by Clow; Rodney Hunt or equal. Extended operating nuts and/or stems shall have universal joints and pin couplings, if longer than 10-ft and a rating of at least five times the maximum operating torque. Stem adapters shall be provided.
- G. Where required by the installation, or as specified, provide the following: extended stem; floor stand and handwheel; position indicator and etched or cast arrow to show direction of rotation to open the valve; resilient, moisture-resistant seal around stem penetration of slab.
- H. Gear Actuators
 - 1. Unless otherwise noted, gear actuators shall be provided for the following: all valves of larger than 3-in nominal diameter; all buried valves with operating shaft mounted horizontally (butterfly, plug, etc); where specified and/or indicated on the Drawings; where manual operator effort is greater than 80 ft-lbs. rim pull.
 - 2. Gear actuators shall be of the worm or helical gear type with output shaft perpendicular to valve shaft, having a removable hand wheel mounted on the output shaft. Unless noted they shall conform to AWWA C504, but except with butterfly valves, need not be certified.
 - 3. Actuators shall be capable of being removed from the valve without dismantling the valve or removing the valve from the line.
 - 4. Gearing shall be machine-cut steel designed for smooth operation. Bearings shall be permanently lubricated, with bronze bearing bushings provided to take all thrusts and seals and to contain lubricants. Housings shall be sealed to exclude moisture and dirt, allow the reduction mechanisms to operate in lubricant and be of the same material as the valve body.
 - 5. Manual operator input effort to the handwheel shall be a maximum of 40 ft-lbs. for operating the valve from full open to full close, under any conditions. Gear actuators shall indicate valve position and have adjustable stops. Maximum handwheel size shall be 24-in diameter.

2.3 GATE VALVES (2-1/2-IN. AND SMALLER)

- A. Gate valves 2-1/2-in diameter and smaller shall have flanged, screwed, or solder ends as required and shall be brass, or bronze, or Type 304 stainless steel solid wedge, union bonnet, rising-stem gate valves such as Figures 47 and 48 as manufactured by Jenkins Brothers, or equal products as manufactured by Kennedy Valve Manufacturing Co.; Crane; or equal.

- B. All water valves 2-1/2-in and 3-in unless noted otherwise, shall be brass body gates and shall be Jenkins No. 1240, equal by Crane, Kennedy, or equal.

2.4 GATE VALVES (3-IN. AND LARGER)

A. General Requirements

1. Unless otherwise specified below, these requirements shall apply to all gate valves.
2. Gate valves shall meet the requirements of AWWA C500 and AWWA C509 as applicable to the type of valve specified.
3. Buried and submerged valves shall be furnished with mechanical joints and stainless steel hardware; non-rising stem design.
4. Exposed valves shall be furnished with Class 125 flanged ends; provide valves with outside screw and yoke.
5. All-metal valves shall be manufactured of ASTM A126 Cast Iron, Class B, with bronze mounting design.
6. Rising stem valves shall be sealed with adjustable and replaceable packing; valve design must permit packing replacement under operating system pressures with only moderate leakage.
7. Non-rising stem valves shall use a double O-ring stem seal, except that packing shall be used where geared operators are required.
8. Except as otherwise specified, valves shall be rated for the following working water pressures:
 - a. 3-in to 12-in: 250 psig
 - b. 14-in to 20-in: 150 psig
 - c. 24-in and greater: 50 psig
9. All valve bodies shall be hydrostatically tested to at least twice the rated working water pressure. In addition, valves shall be seat-tested, bi-directional at the rated working pressure, with seat leakage not to exceed one fluid ounce per inch of valve diameter per hour. Provide certificates of testing.
10. Flanged valves to have face-to-face dimensions per ANSI B16.1 and flanges per ANSI B16.10.
11. Exposed valves 16-in. and larger to have valve by-pass.
12. All bonnet and packing gland bolts shall be zinc or cadmium electroplated steel; packing gland bolts shall have bronze nuts.
13. Exposed valves, 16-inches in diameter and larger, indicated for horizontal stem installation shall be furnished with rollers, tracks and scrapers and enclosed bevel gear grease case.
14. All valves shall be marked per AWWA Standards, including name of manufacturer, valve size and working pressure and year of manufacture.
15. Unless otherwise indicated, valves 12-in and smaller shall be capable of installation in the vertical or horizontal position, and sealing in both directions at the rated pressure.

16. Valve operation shall be counterclockwise for potable water; clockwise for wastewater and other non-potable waters. Provide permanent label showing "OPEN" and arrows.
17. Metal-seated valves shall be coated internally and externally with an asphaltic varnish, per AWWA C500. Resilient seated valves shall be coated, interior and exterior, with fusion bonded epoxy per AWWA C550.

B. Valve Applications

1. Valves for Potable Water Service.
 - a. Resilient seated wedge design equal to M&H Valve Company Model 4067-01 or Mueller A-2360-20.

C. Valve Requirements

1. Resilient Seated
 - a. Conform to AWWA C509. Also UL and FM approved.
 - b. Internal and external epoxy coating of valve body, including bonnet, per AWWA C550.
 - c. Gate shall be encapsulated synthetic rubber. It shall be bonded and vulcanized in accordance with ASTM B429 Method B.
 - d. No recesses in valve body.

D. Buried Valves

1. Conform to the requirements above, except mechanical joint bell ends per AWWA C111.
 - a. All exposed valve hardware (nuts, bolts, washers, etc) including bonnet, bonnet cover, stuffing box, gear adapter and joints shall be Type 304 stainless steel.
2. Non-rising stem design, double O-ring seals for non-geared valves and shall incorporate packing for geared valves.
3. Provide valve box, 2-in operating nut and extension stem and stem cover.

2..9 SURFACE PREPARATION AND SHOP COATINGS

- A. Notwithstanding any of these Specifications, all coatings and lubricants in contact with potable water shall be certified as acceptable for use with that fluid.
- B. Unless otherwise specified herein, coatings shall comply with the requirements of Division 9. In case of a conflict, the requirements of this Section govern.
- C. If the manufacturer's requirement is not to require finished coating on any interior surfaces, then manufacturer shall so state and no interior finish coating will be required, if acceptable to the Engineer.
- D. The exterior surface of various parts of valves, operators, floor stands and miscellaneous piping shall be thoroughly cleaned of all scale, dirt, grease or other foreign matter and thereafter one shop coat of an approved rust-inhibitive primer such as Tnemec Epoxy Primer 66-BJ45 shall be applied in accordance with the instructions of the paint manufacturer or other primer compatible with the finish coat provided.
- E. Unless otherwise noted, interior ferrous surfaces of all valves shall be given a shop finish of an asphalt varnish conforming to AWWA C509, (except mounting faces/surfaces) or epoxy AWWA C550 with a minimum thickness of 4 mil.

- F. Ferrous surfaces obviously not to be painted shall be given a shop coat of grease or other suitable rust-resistant coating. Mounting surfaces shall be especially coated with a rust preventative.
- G. Special care shall be taken to protect uncoated items and plastic items, especially from environmental damage.

2.10 FACTORY INSPECTION, TESTING AND CORRECTION OF DEFICIENCIES

- A. Factory inspection, testing and correction of deficiencies shall be done in accordance with the referenced Standards and as noted herein.
- B. See Division 1 for additional requirements. Also refer to PART 1 of this Section, especially for required submission of test data to the Engineer.
- C. In addition to all tests required by the referenced Standards, the following shall also be factory tested:
 - 1. Pressure regulating valves shall be factory tested at the specified pressures and flows.
 - 2. All types of air and vacuum valves.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. All valves and appurtenances shall be installed per the manufacturer's instructions in the locations shown, true to alignment and rigidly supported. Any damage to the above items shall be repaired to the satisfaction of the Construction Manager before they are installed.
- B. Install all brackets, extension rods, guides, the various types of operators and appurtenances as shown on the Drawings, or otherwise required. Before setting these items, check all Drawings and figures that have a direct bearing on their location. The Contractor shall be responsible for the proper location of valves and appurtenances during the construction of the Work.
- C. All materials shall be carefully inspected for defects in construction and materials. All debris and foreign material shall be cleaned out of openings, etc. All valve flange covers shall remain in place until connected piping is in place. All operating mechanisms shall be operated to check their proper functioning and all nuts and bolts checked for tightness. Valves and other equipment that do not operate easily, or are otherwise defective, shall be repaired or replaced at no additional cost to the Owner.
- D. Where installation is covered by a Referenced Standard, installation shall be in accordance with that Standard, except as herein modified, and the Contractor shall certify such. Also note additional requirements in other parts of this Specification.
- E. Unless otherwise noted, joints for valves and appurtenances shall be made up utilizing the same procedures as specified under the applicable type connecting pipe joint and all valves and other items shall be installed in the proper position as recommended by the manufacturer. Contractor shall be responsible for verifying manufacturers' torquing requirements for all valves.

3.02 INSTALLATION OF MANUAL OPERATIONAL DEVICES

- A. Unless otherwise noted, all operational devices shall be installed with the units of the factory, as shown on the Drawings or as acceptable to the Construction Manager to allow accessibility to operate and maintain the item and to prevent interference with other piping, valves and appurtenances.
- B. For manually operated valves 3-in in diameter and smaller, valve operators and indicators shall be rotated to display toward normal operation locations.
- C. Floor boxes, valve boxes, extension stems and low floor stands shall be installed vertically centered over the operating nut, with couplings as required and the elevation of the box top shall be adjusted to conform with the elevation of the finished floor surface or grade at the completion of the Contract. Boxes and stem guides shall be adequately supported during concrete pouring to maintain vertical alignment.

3.03 INSPECTION, TESTING AND CORRECTION OF DEFICIENCIES

- A. Do not over pressurize valves or appurtenances during pipe testing. If any unit proves to be defective, it shall be replaced or repaired to the satisfaction of the Construction Manager.
- B. Testing shall not be performed until the manufacturer's service engineer has provided written certification that the installed equipment has been examined and found to be in complete accordance with the manufacturer's requirements.
- C. Functional Test: Prior to plant startup, all items shall be inspected for proper alignment, quiet operation, proper connection and satisfactory performance. All units shall be operated continuously while connected to the attached piping for at least 48 hours, without vibration, jamming, leakage, or overheating and perform the specified function.
- D. The various pipe lines in which the valves and appurtenances are to be installed are specified to be field tested. During these tests any defective valve or appurtenance shall be adjusted, removed and replaced, or otherwise made acceptable to the Construction Manager.
- E. Various regulating valves, strainers, or other appurtenances shall be tested to demonstrate their conformance with the specified operational capabilities and any deficiencies shall be corrected or the device replaced or otherwise made acceptable to the Construction Manager.

3.04 CLEANING

- A. All items (including valve interiors) shall be cleaned prior to installation, testing, disinfection, and final acceptance.

3.05 DISINFECTION

- A. Disinfection of valves and appurtenances on all potable water lines and where otherwise noted, shall be as noted in the Section 15060-Ductile Iron Pipe and Fittings.

END OF SECTION 15100

ADVERTISEMENT FOR BIDDERS

Sealed Bids will be received by the **City of Flowery Branch, Georgia**, 5410 W. Pine Street, Flowery Branch, Georgia 30542 until:

11:00 A.M., Local Time on Tuesday, June 28, 2022

for the Project known as:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements
BID #22-008**

at which time and place the proposals will be publicly opened and read aloud. Proposals received after the designated time will not be considered and returned unopened. The OWNER of the project is the City of Flowery Branch, Georgia. The ENGINEER for the project is Infratec Consultants, Inc.

The Project generally consists of the following major items:

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control including electrical modifications and miscellaneous appurtenances.

Bidders shall inform themselves concerning Georgia Laws and comply with same.

Complete electronic (PDF) sets of Bidding Documents may be obtained from the issuing office, Infratec Consultants Inc, 310 Saddle Hill Ct., Roswell, Georgia 30075, upon payment of \$100.00 for plans and specifications. Return of the Documents is not required, and the payment is non-refundable. The OWNER is not obligated to consider a bidder's proposal, if bidder is not on record with the issuing office as having received complete Bidding Documents.

For information concerning the proposed Work, contact Infratec Consultants, Inc., Attention Keith Hendrix, telephone number 404-861-6956 or email to kh.infratec@aol.com. Contractors may contact City of Flowery Branch personnel Jimmy Dean at telephone number 678-776-1074 or email at jimmydfb@flowerybranchga.org and/or Bill Whidden telephone number 470-798-0554 or email billw@flowerybranch.org for additional information and to schedule a site visit.

The time allowed for Substantial Completion each tank is 360 days, and the time allowed for completion and readiness for final payment is 390 days from the date of commencement.

Each Bid must be accompanied by a Bid Bond with good and sufficient surety or sureties approved by the owner for faithful acceptance of the contract, payable to, in favor of, and for the protection of the OWNER in an amount equivalent to five percent (5%) of the total amount payable by the terms of the contract or, in lieu thereof, a certified check, cashier's check, or cash in equal amount.

The successful bidder will be required to furnish the necessary additional Bond(s) as described in the Bidding Documents.

All Bids will remain subject to acceptance for ninety days after the day of the Bid opening, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to that date.

The Owner reserves the right to reject any or all Bids, to waive informalities and re-advertise.

Before a Contract will be awarded for the work proposed herein, the Owner will conduct such additional investigations as is necessary to determine the performance record and ability of the apparent low Bidder to perform the size and type of work specified under this Contract. Upon request, the Bidder shall submit such additional information as deemed necessary by the Owner to further evaluate the Bidder's qualifications. The Project, if awarded, will be to the lowest qualified Bidder or Bidders.

There will be a Non-Mandatory Pre-bid conference to be held at the existing Tank Site on Gainseville Street, at 11:00 A.M., local time, on Monday, June 20, 2022.

City of Flowery Branch, Georgia

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INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

- A. *Issuing Office*--The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. The Issuing Office is:

**Infratec Consultants, Inc.
310 Saddle Hill Ct.
Roswell, Georgia 30075**

**Troxler Cell: (770) 596-1984
Hendrix Cell: (404) 861-6956**

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete electronic (PDF) sets of the Bidding Documents for the non-refundable payment stated in the Advertisement or Invitation to Bid, may be obtained from the Issuing Office.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents. Bidders shall print out all of the documents as shown under the "Index of Bidding Documents" as part of their bid.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, within five days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.

A. The Bidder will be required to provide evidence of compliance with the requirements of O.C.G.A. 43-14 (Construction Industry Licensing Board Acts and Rules and Regulations) with respect to the requirements of the code.

B. The Bidder shall submit, for himself and for each Subcontractor who will perform more than fifteen (15) percent of the work, the following information:

1. The name, address, and telephone number of the Subcontractor.
2. Nature of the Work to be performed by the Subcontractor on this Project, including description of his Work and approximate percentage of Work Subcontractor will perform.
3. List of five similar projects completed within the last ten years by the Subcontractor, including project name; location; dates work was performed; owner's name, address, telephone number and contact; and brief description of work indicating similarity to the Work proposed for this Project.

Failure of Bidder to provide such information, if requested, within ten days of notification of request, shall be grounds for forfeiting of the bid security of that Bidder.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 *Subsurface and Physical Conditions***A. The General Conditions identify:**

1. Those reports, if any, of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer may have used in preparing the Bidding Documents.

2. Those drawings, if any, of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer may have used in preparing the Bidding Documents.

B. A copy of the Report of Subsurface Exploration and Geotechnical Engineering Evaluation report by Geo-Hydro Engineers Project Number 181239.20 referenced in Paragraph 4.01.A is included within these Contract Documents. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.

4.02 *Underground Facilities*

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site, where applicable, is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03 *Hazardous Environmental Condition*

A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner or Engineer.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions, appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

4.05 On request and where applicable, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.06 Reference is made to Article 7 of the General Conditions for the identification of the general nature of other work, if any, that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such other work.

4.07 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;

B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in Paragraph 4.02 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions at the Site which have been identified in Paragraph 4.06 of the General Conditions;

E. obtain and carefully study (or accept consequences of not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;

I. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

J. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

5.01 There will be a pre-bid conference for this project as described in the Advertisement For Bidders.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of FIVE percent (5%) of Bidder's maximum Bid price and in the form of a certified check or bank money order or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 30 days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 60 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, Milestones are to be achieved and/or the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, with consideration of "Alternate Equipment" and associated deducts, noted in the Bid Form. Contract award will not, however, consider possible substitute or "or-equal" items other than the specific Alternate Equipment and deducts noted in the Bid Form. Whenever it is specified or described in the Bidding Documents that a

substitute or “or-equal” item of material or equipment may be furnished or used by Contractor if acceptable to Engineer (with the exception of Alternate Equipment in the Bid Form), application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 If the General Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents.

13.02 All blanks on the Bid Form shall be completed by printing in ink or by typewriter and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternative, adjustment unit price item, and unit price item listed therein, or the words “No Bid,” “No Change,” or “Not Applicable” entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown below the signature.

13.08 All names shall be typed or printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

13.10 The address and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the State of Georgia or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, shall also be shown on the Bid Form

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

14.01 *Lump Sum*

A. Bidders shall submit a Bid on a lump sum basis for each Contract Part set forth in the Bid Form as lump sum.

Unit Price

B. Bidders shall submit a Bid on a unit price basis for each item of Work for each Contract Part listed in the Bid schedule.

C. The total of all estimated prices will be the sum of each Contract Part as set forth in the Bid Form. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.

D. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

14.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in Paragraph 11.02 of the General Conditions.

14.03 Bid prices will be compared from each tank Contractor for the total price of each tank separately, and the combination of tank prices with the lowest total project price will be considered as the apparent low bidder or bidders.

ARTICLE 15 - SUBMITTAL OF BID

15.01 The Bidder is required to print out the completed Bidding Documents as listed under the Index of Bidding Documents shown in the Table of Contents. Additional information required, as indicated, on the Bid Form shall also be submitted.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to:

**City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542
770-967-6357**

Att: City Manager

15.03 Any bid not bearing the bidder's utility contractor license number issued by the State of Georgia Construction Industry Licensing Board, when required by state law, may not be considered by the Owner.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed, and delivered to the place where Bids are to be submitted, prior to the date and time for the opening of Bids.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the General Conditions.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

19.06 If the Contract is to be awarded, Owner will award the Contract to the lowest responsible and responsive Bidder whose Bid is in the best interests of the Project.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.01 Article 5 of the General Conditions sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner gives a Notice of Award to the Successful Bidder or Bidders, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 30 days thereafter, Successful Bidder or Bidders shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 - SALES AND USE TAXES

22.01 Contractor is responsible for all sales and use taxes, and shall include all costs attributable to sales and use taxes in the Bid.

ARTICLE 23 - RETAINAGE

23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

BID FORM

ARTICLE 1 – BID RECIPIENT

1.01 Project Identification:

City of Flowery Branch, Georgia
Water Tank 1 Improvements

1.02 This Bid is submitted to:

City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542

Attn: City Manager

- 1.03 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

1. In submitting this Bid, Bidder represents that:
- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
1	JUNE 21, 2022
2	JUNE 28, 2022

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that may be identified in GC-4.02, if any; and (2) all reports and drawings of Hazardous Environmental Conditions that may be identified in GC-4.06, if any.
- E. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.
- I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 – FURTHER REPRESENTATIONS

4.01 Bidder further represents that:

- L. this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;
- M. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- N. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

- O. Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

ARTICLE 5 – BASIS OF BID

- 5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

TANK 1: 250,000 GALLON SPHERIOD TANK

PART 1: 250,000 GALLON WATER STORAGE TANK LUMP SUM BID

Lump Sum price for furnishing all materials, labor, equipment, site work, yard piping, electrical and services necessary to complete the construction as shown on the plans and described in the specifications under Tank 1 and not specifically listed in the unit price items section below.

\$ 2,415,571.00

_____ Numerals

\$ TWO MILLION FOUR HUNDRED FIFTEEN THOUSAND FIVE HUNDRED SEVENTY ONE DOLLARS AND NO CENTS

_____ Words

PART 2: UNIT PRICE ITEMS

No.	Description	Qty.	Units	Unit Price	Total Amount
1.	Silt Fence (Type C)	500	L.F.	\$ 10.00 Numerals	\$ 5,000.00 Numerals
				\$ FIVE THOUSAND DOLLARS AND NO CENTS Words	
2.	Hay Bales	250	L.F.	\$ 10.00 Numerals	\$ 2,500.00 Numerals
				\$ TWO THOUSAND TWENTY-FIVE DOLLARS NO CENTS Words	

No.	Description	Qty.	Units	Unit Price	Total Amount
3.	Rip Rap (D.O.T. Type 1)	10	S.Y.	\$ <u>150.00</u> Numerals	\$ <u>1,500.00</u> Numerals
				\$ <u>ONE THOUSAND FIVE HUNDRED DOLLARS NO CENTS</u> Words	
4.	#57 Gravel Drive Replacement	200	Tons	\$ <u>75.00</u> Numerals	\$ <u>15,000.00</u> Numerals
				\$ <u>FIFTEEN THOUSAND DOLLARS NO CENTS</u> Words	
5.	Grassing (Temporary)	0.5	AC.	\$ <u>5,000.00</u> Numerals	\$ <u>2,500.00</u> Numerals
				\$ <u>TWO THOUSAND FIVE HUNDRED DOLLARS NO CENTS</u> Words	
6.	Grassing (Permanent)	0.5	AC.	\$ <u>5,000.00</u> Numerals	\$ <u>2,500.00</u> Numerals
				\$ <u>TWO THOUSAND FIVE HUNDRED DOLLARS NO CENTS</u> Words	
7.	Construction Exit	2	EA.	\$ <u>5,000.00</u> Numerals	\$ <u>10,000.00</u> Numerals
				\$ <u>TEN THOUSAND DOLLARS AND NO CENTS</u> Words	
8.	Geotechnical Testing Allowance	1	L.S.	\$ <u>25,000</u> Numerals	\$ <u>25,000</u> Numerals
				\$ <u>Twenty-five Thousand</u> Words	

Subtotal Part 2 (total of unit price items)

\$ 62,000.00

Corrected to \$ 64,000.00 CKH Infratec

Numerals

\$ SIXTY-TWO THOUSAND DOLLARS AND NO CENTS

Words

SUMMARY OF TANK 1 COST:**Grand Total of Part 1 thru Part 2:**

\$ 2,477,571.00

Corrected to \$ 2,479,571.00 CKH Infratec

Numerals

\$ TWO MILLION FOURHUNDRED SEVENTY -SEVEN THOUSAND FIVE HUNDRED SEVENTY ONE DOLLARS NO CENTS

Words

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work for Tank 1 will be substantially complete within 360 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions within 390 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are attached to and made a condition of this Bid:
- P. Required Bid security in the form of Bid Bond, Certified Check, Cashier's Check, or Cash. (*Strikeout inapplicable terms*). Bidders who submit Bid Security in the form of a Certified Check, Cashier's Check, or Cash are bound by the "Terms of Bid Bond" as if submitted on the attached "Bid Bond" form.
 - Q. List of Proposed Subcontractors
 - R. List of Proposed Suppliers
 - S. Affidavit of Non-Collusion
 - T. Immigration Compliance Act

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders and the General Conditions.

ARTICLE 9 – BID SUBMITTAL

- 9.01 This bid submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner -- attach evidence of authority to sign)

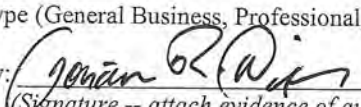
Name (typed or printed): _____

A Corporation

Corporation Name: PHOENIX FABRICATORS AMD ERECTORS LLC (SEAL)

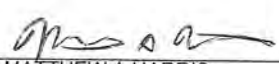
State of Incorporation: INDIANA

Type (General Business, Professional, Service, Limited Liability): LLC

By:  _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): JONATHAN R DIXON

Title: VP SALES (CORPORATE SEAL)

Attest  _____
MATTHEW A HARRIS

Date of Authorization to do business in Georgia is 4 / 10 / 2011

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address 182 SOUTH COUNTY ROAD 900 E
AVON, INDIANA 46123

Phone No. 270-318-1200 Fax No. 270-835-9990

SUBMITTED on JUNE 5, 2022

State Contractor License No. UC302175 (If applicable)



Date: 7/5/2022

Company Name: Phoenix Fabricators and Erectors, LLC

Company Address: 182 South County Rd 900 E, Avon, IN 46123

Subject: AIS Step Certification for Project

I, Jonathan R. Dixon, certify that the (melting, bending, galvanizing, cutting, etc.) processes for (manufacturing or fabricating) the following products and/or material shipped or provided for the subject project is in full compliance with the AIS requirement as mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.

Item, Products and/or Materials, and location of delivery (City, State):

1. Avon, Indiana
2. Sebree, Kentucky

Such processes for AIS took place at the following location:

Avon, Indiana and Sebree, Kentucky

This certification is to be submitted upon request to interested parties (e.g., municipalities, consulting engineers, general contractors, etc.)

If any of the above compliance statements change while providing materials to this project, please immediately notify the person(s) who is requesting to use your product(s).

Authorized Company Representative Signature

(Note: Authorized signature shall be manufacturer's representative not the material distributor or supplier)

**CERTIFICATION BY PROPOSED PRIME CONTRACTOR OR SUBCONTRACTOR
REGARDING
EQUAL EMPLOYMENT OPPORTUNITY**

Proposed Prime Contractor PHONIX FABRICATORS AND ERECTORS LLC
Proposed Subcontractor

This certification is required pursuant to Executive Order 11246, Part II, Section 203 (b), (30 F.R. 12319-25). Any bidder or prospective prime contractor, or any of the proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the prime or subcontractor has not filed a compliance report due under applicable instruction, such contractor shall be required to submit a compliance report.

(1) Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
YES ☒ NO ☐

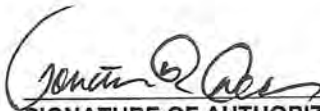
(2) Compliance Reports were required to be filed in connection with such contract or subcontract.
YES ☐ NO ☒ (If YES, state what reports were filed and with what agency.)

(3) Bidder has filed all compliance reports due under applicable instructions, including SF-100 (EEO-1 Report).
YES ☒ NO ☐ (If NO, please explain in detail.)

The information above is true and complete to the best of my knowledge and belief. (A willfully false statement is punishable by law – U.S. Code, Title 18, Section 1001.)

JONATHAN R DIXON VP SALES

PRINTED NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR OR SUBCONTRACTOR


SIGNATURE OF AUTHORIZED REPRESENTATIVE

7/05/2022
DATE

**CERTIFICATION BY PROPOSED PRIME CONTRACTOR OR SUBCONTRACTOR
REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBLE MATTERS**

Proposed Prime Contractor PHOENIX FABRICATORS AND ERECTORS LLC
Proposed Subcontractor

Under Executive Order 12549 individuals or organizations debarred from participation in Federal Assistance Programs may not receive an assistance award under federal program or sub-agreement there under for \$25,000 or more. Accordingly each recipient of a State loan or a contract (engineering or construction) awarded under a loan must complete the following certification (see 40 CFR 32.510).

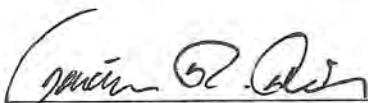
The prospective participant certifies to the best of its knowledge and belief that it and its principals;

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- (d) Have not within a three year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause of default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. (A willfully false statement is punishable by law – U.S. Code, Title 18, Section 1001.)

JONATHAN R DIXON VP SALES

PRINTED NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR OR SUBCONTRACTOR



SIGNATURE OF AUTHORIZED REPRESENTATIVE

7/05/202

DATE

____ I am unable to certify to the above statements. My explanation is as follows:

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name PHOENIX FABRICATORS AND ERECTORS LLC		Project Name Elevated Water Tank 1 Improvements	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact TO BE ASSIGNED	
Address 182 SOUTH COUNTY ROAD 900 E AVON, INDIANA 46123			
Telephone No. 317-318-1200		Email Address SALES@PHOENIXTANK.COM	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	☒ YES	☐ NO	
If yes, please complete the table below. If no, please explain: FIND CALL LOG ATTACHED			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?
	No DBE'S utilized		

Continue
on back
if needed

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

DBE COMPLIANCE FORM

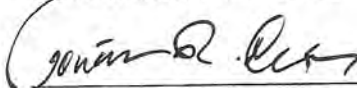
ALL INFORMATION OUTLINED ON THIS FORM IS REQUIRED FOR DBE COMPLIANCE REVIEW. THE PROPOSED PRIME CONTRACTOR AND OWNER SHOULD ENSURE THAT THIS INFORMATION IS COMPLETE PRIOR TO SUBMITTAL.

Loan Recipient CITY OF FLOWERY BRANCH

SRF Loan Number _____

PRIME CONTRACTOR'S AND OWNER'S CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this firm has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants and that EPA Forms 6100-2 and 6100-3 were distributed to all DBE subcontractors.


(Prime Contractor signature)

Date 7/05/2022

JONATHAN R DIXON
(Printed name and title)

I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Owner's State Revolving Fund loan contract.

(Signature of Owner or Owner's representative)

Date _____

(Printed name and title)

CONTACT INFORMATION

Owner contact City of Flowery Branch, Georgia

Owner phone number & email N/A

Consulting Engineer contact Infratec Consultants, Inc. 310 Saddle Hill Ct. Roswell, Georgia 30075

Consulting Engineer phone number & email Troxler Cell: (770) 596-1984 Hendrix Cell: (404) 861-6956

Proposed Prime Contractor PHOENIX FABRICATORS AND ERECTORS LLC

Prime Contractor contact KYLE ST.PIERRE

Prime Contractor phone number & email 317-737-2979 kyle.stpierre@phoenixtank.com

Proposed total contract amount \$ _____

Proposed total MBE participation \$ _____ Percentage _____ Goal: 4.0 percent

Proposed total WBE participation \$ _____ Percentage _____ Goal: 4.0 percent

CONTINUED ON NEXT PAGE

Task	Business	Class	Contact	Phone No.	Email	Phone Call	Email
Electric	McCall Enterprises	WBE	Chandra McCall	770-484-6402	tmccall@mccallent.com	6/22/2022	6/29/2022
Electric	B/E Electrical Contractors, Inc.	WBE	Rosa Ann Boswell	706-541-1441	beelectrical@comcast.net	6/22/2022	6/29/2022
Electric	Dixie Electric Company	WBE	Kathryn Lake	770-663-8440	klake@dixieelectric.net	6/22/2022	6/29/2022
Electric	CBK Mechanical, Inc.	MBE	Brent Steele	770-838-1949	brent.steele@cbkmechanical.com	6/22/2022	6/29/2022
Electric	Charles E. Shaw Electrical Contractor	MBE	Charles Shaw	706-213-7576	ceshawelectric@yahoo.com	6/22/2022	6/29/2022
Electric	GC Electrical Solutions, LLC	MBE	Eugene Carlton	770-716-5400	cartlontg@gc-es.com	6/22/2022	6/29/2022
Fence	Doyle Hancock & Sons	WBE	Andy Hancock	229-881-9514	andy@hancocksons.com	6/23/2022	6/29/2022
Fence	Charter Construction	WBE	S. Kay Broaddus	770-235-5992	kay@chartercs.com	6/22/2022	6/29/2022
Fence	Reynolds Fence & Guardrail, Inc.	WBE	Nancy Monteith	704-753-4992	nancy@reynoldsfenceandguardrail.com	6/22/2022	6/29/2022
Fence	C.F.C. Inc.	MBE	N.E. Mainer	770-507-8611	cfc@cs.com	6/22/2022	6/29/2022
Fence	Leon's Fence & Guardrail, LLC	MBE	Leon Chaplin, Jr.	843-846-6829	LF@leonsfenceandguardrail.net	6/22/2022	6/29/2022
Fence	S.T. English Construction Co., Inc.	MBE	Star English	770-895-4461	stenglishconstruction@gmail.com	6/22/2022	6/29/2022

Infratec Consultants, Inc.

Project: Elevated Water Tank 1 Improvements

BID BOND Penal Sum Form

Any singular reference to Bidder, Surety, Owner, or other party shall be considered plural where applicable.

BIDDER (Name and Address):

Phoenix Fabricators and Erectors, LLC
182 South County Road 900 East
Avon, IN 46123

SURETY (Name/Address of Principal Place of Business):

Trisura Insurance Company
2 Stamford Plaza, Suite 1504, 281 Tresser Blvd.
Stamford, CT 06901

OWNER:

City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542
770-967-6357

BID

Bid Due Date: July 7, 2022

Project/Description:

City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control, including electrical modifications and miscellaneous appurtenances.

BOND

Bond Number:

Date (Not later than Bid due date):

Penal sum:

N/A

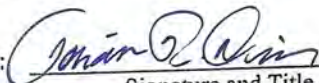
July 7, 2022

FIVE PERCENT OF BID (5%)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

Phoenix Fabricators and Erectors, LLC (Seal)
Bidder's Name and Corporate Seal

By: 
Signature and Title
Jonathan R. Dixon

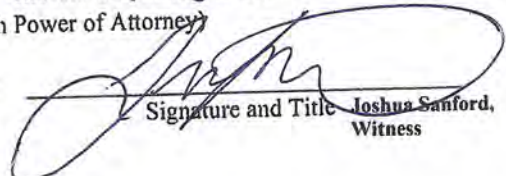
Attest: 
Signature and Title
Matt Harris, Assistant Secretary

Note: Above addresses are to be used for giving required notice.

SURETY

Trisura Insurance Company (Seal)
Surety's Name and Corporate Seal

By: 
Rebecca Josephson, Attorney-in-fact
(Attach Power of Attorney)

Attest: 
Signature and Title
Joshua Sanford, Witness

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

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2 Stamford Plaza
Suite 1504, 281 Tresser Boulevard
Stamford, Connecticut 06901
us.surety@trisura.com

POWER OF ATTORNEY

Bond # Bid Bond

Bond issuance date: July 7, 2022

KNOW ALL MEN BY THESE PRESENTS: That TRISURA INSURANCE COMPANY, a corporation organized and existing under the laws of the State of Oklahoma, authorized to conduct a surety business, and having its principal place of business at 2 Stamford Plaza, Suite 1504, Tresser Boulevard, Stamford, Connecticut 06901, does hereby constitute and appoint:

Rebecca Josephson

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said TRISURA INSURANCE COMPANY, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of TRISURA INSURANCE COMPANY and is granted under and by authority of the following resolution adopted by the Board of Directors of TRISURA INSURANCE COMPANY at a meeting duly held on the 11th day of December, 2020.

"RESOLVED, that (1) the Chief Executive Officer, President, Executive Vice President, Senior Vice President, Vice President, or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, TRISURA INSURANCE COMPANY have each executed and attested these presents on

This 11th day of March, 2021.

STATE OF Connecticut
County of Fairfield

Richard Grant
Richard Grant, Vice President, U.S. Surety



On this 11th day of March, 2021, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of TRISURA INSURANCE COMPANY; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the Fairfield, Connecticut the day and year first above written.

[Signature] seal
_____, a Notary Public of Connecticut
My Commission Expires: 6/30/25



DINA FOX
Notary Public, State of Connecticut
My Commission Expires June 30, 2025

TO CONFIRM AUTHENTICITY OF THIS BOND OR DOCUMENT EMAIL: us.surety@trisura.com



Telephone: +1 860-263-1042

Website: wtwco.com

E-mail: becky.josephson@willistowerswatson.com

June 27, 2022

Phoenix Fabricators & Erectors
Attn: Kyle St. Pierre
1329 US Hwy 41 North
Sebree, KY 42455

RE: **Obligee: City of Flowery Branch**
Bid Bond for: Elevated Water Tank Improvements
Bid Date: July 7, 2022

As you requested, we are pleased to provide the attached bid bond documents. This bond has been executed based upon the information we received from your office.

Please note the bond must be signed by an authorized representative of your company and if applicable, sealed with the corporate seal. We urge you to check all bond documents, including signatures, dates, amounts, job description, Power of Attorney and any other attachments to avoid the possibility of having a low bid rejected. Additionally, please verify that the bid bond form attached is the form required by the specifications.

The Bid Bond authorization is based upon your original estimate. If the bid exceeds this estimate by 10% or more, the bond must be reauthorized by the surety. Please contact us for additional authority.

Your bid results are very important. Please send your bid results to my email address shown above as soon as they are available.

Thank you for the opportunity to service your surety needs. Should you have any questions, please do not hesitate to contact me or any member of your Willis surety team.

Sincerely,

Becky Josephson

Willis Towers Watson Midwest, Inc.
10 State House Square, Floor 11
Hartford, CT 06103



182 SOUTH COUNTY ROAD 900 EAST • AVON, IN 46123-8973

STATE OF INDIANA }
 }
COUNTY OF HENDRICKS }

RESOLUTION

I, Dallas Green, CEO and President of Phoenix Fabricators and Erectors, LLC., hereby certifies that the following Resolution was adopted on the 30th day of March 2022, meeting of the Board of Directors at which a quorum was present and voted and that said Resolution remains in full force and effect, to wit:

RESOLVED, that the following officers and employees of Phoenix Fabricators and Erectors, LLC., are hereby authorized in the name of this Corporation to sign bids, proposals, execute contracts and bonds in conjunction with the performance of water and sewer construction projects.

Chief Executive Officer / President	Dallas Green
Chief Operating Officer & Executive Vice President	Kurt T. Fuller, P.E.
Vice-President Sales	Jonathan R. Dixon, P.E.
Assistant Secretary	Matthew A. Harris

IN WITNESS WHEREOF, I have hereunto set my hand and seal of this Corporation on this 30th day of March 2022.

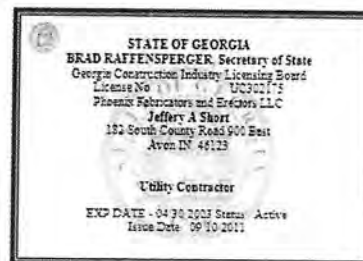
Dallas Green, Chief Executive Officer / President



A pocket-sized license card is below. Above is an enlarged copy of your pocket card.
Please make note of the expiration date on your license. It is your responsibility to renew your license before it expires. Please notify the Board if you have a change of address.
Wall certificates suitable for framing are available at cost, see board fee schedule. To order a wall certificate, please order from the web site - www.sos.ga.gov/plb.
Please refer to Board Rules for any continuing education requirements your profession may require.

Georgia State Board of Professional Licensing
237 Coliseum Drive
Macon GA 31217
Phone: (404) 424-9966
www.sos.ga.gov/plb

Phoenix Fabricators and Erectors LLC
182 South County Road 900 East
Avon IN 46123



AGREEMENT

THIS AGREEMENT is by and between City of Flowery Branch, Georgia and

Phoenix Fabricators and Erectors, LLC

Owner and Contractor, in consideration of the mutual covenants set forth herein, agree as follows:

ARTICLE 1 - WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements**

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control, including electrical modifications and miscellaneous appurtenances

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements**

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by Infratec Consultants, Inc. (Engineer), who is to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Days to Achieve Substantial Completion and Final Payment

A. Bidder agrees that the Work for Tank 1 will be substantially complete within 360 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions,

and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions within 390 calendar days after the date when the Contract Times commence to run.

4.03 Liquidated Damages

A. Contractor and Owner recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner **\$500 (Five Hundred Dollars)** for each day that expires after the time specified in Paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner **\$250 (Two Hundred Fifty Dollars)** for each day that expires after the time specified in Paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 - CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 5.01A and 5.01B below.

A. The Total Base Bid amount as indicated in the Contractor's Bid (Article 5, Paragraph 5.01 of the Bid Form); the amount of:

\$ 2,415,571.00

\$ two million four hundred fifteen thousand five hundred seventy-one dollars and no cents
(Words)

Plus

B. For all Unit Price Work, an amount equal to the sum of the unit price items as indicated in the Contractor's Bid (Article 5, Paragraph 5.01 of the Bid Form) in the amount of:

\$ 64,000.00

\$ sixty-four thousand dollars and no cents
(Words)

Sum of A and B

\$ 2,479,571.00

\$ two million four hundred seventy-nine thousand five hundred seventy-one dollars and no cents
(Words)

ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 Progress Payments; Retainage

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the **25th day** of each month during performance of the Work as provided in Paragraphs 6.02.A.1 and 6.02.A.2 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions:

a. **Ninety Percent (90%)** of Work completed (with the balance being retainage) and **Ninety Percent (90%)** of cost of materials and equipment not incorporated in the Work (with the balance being retainage)

b. When the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, Owner, on recommendation of Engineer, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no additional retainage; and

2. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to **Ninety-Five Percent (95%)** of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less One Hundred Percent (100%) of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 Final Payment

A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 - INTEREST

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of Wachovia Bank's 90 CD rate adjusted per annum. The Contractor shall submit interest rate calculations on retainage data with each pay request. Failure to submit data will result in the forfeiture of interest.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site

conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities), if any, as provided in Paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.

E. Contractor has obtained and carefully studied (or assumes responsibility for doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto.

F. Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

I. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 Contents

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 6, inclusive).
2. Performance bond (pages 1 to 3, inclusive).
3. Payment bond (pages 1 to 3, inclusive).
4. Other bonds (pages ____ to ____, inclusive).
 - a. ____ (pages ____ to ____, inclusive).
 - b. ____ (pages ____ to ____, inclusive).
 - c. ____ (pages ____ to ____, inclusive).

5. General Conditions (pages 00700-1 to 00700-40, inclusive).
6. Not applicable.
7. Specifications as listed in the table of contents of the Project Manual.
8. Drawings consisting of 12 sheets with each sheet bearing the following general title: **Elevated Water Tanks 1 Improvements** [or] the Drawings listed on attached sheet index.
9. Addenda (numbers 1 to 2, inclusive).
10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid.
 - b. Documentation submitted by Contractor prior to Notice of Award (pages _____ to _____, inclusive).
 - c. Affidavit of Non-Collision.
 - d. Immigration Compliance
11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed (pages _____ to _____, inclusive).
 - b. Work Change Directives.
 - c. Change Order(s).

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.01 Terms

A. Terms used in this Agreement will have the meanings stated in the General Conditions.

10.02 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in duplicate. One counterpart each has been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____, 20__ (which is the Effective Date of the Agreement).

OWNER:

City of Flowery Branch, Georgia

By: _____

Title: _____

[CORPORATE SEAL]

Attest: _____

Title: _____

Address for giving notices:

City of Flowery Branch

5410 W. Pine Street

Flowery Branch, Georgia 30542

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Owner-Contractor Agreement.)

CONTRACTOR:

Phoenix Fabricators and Erectors, LLC

By: _____

Title: _____

[CORPORATE SEAL]

Attest: _____

Title: _____

Address for giving notices:

License No.: _____ (Where applicable)

Agent for service or process: _____

(If Contractor is a corporation or a partnership, attach evidence of authority to sign.)

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

**Phoenix Fabricators and Erectors, LLC
182 South County Road 900 East
Avon, IN 46123**

OWNER (Name and Address):

**City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542**

CONSTRUCTION CONTRACT

Date: July 7, 2022

Amount \$ 2,479,571.00

Project/Description:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements**

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control, including electrical modifications and miscellaneous appurtenances.

SURETY (Name and Address of Principal Place of Business):

BOND

Bond Number:

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or

representative.

CONTRACTOR AS PRINCIPAL

Company: _____

(Corp. Seal)

SURETY

Company: _____

(Corp. Seal)

Signature: _____

Name and Title:

Signature: _____

Name and Title:

Infratec Consultants, Inc.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.
2. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 3.1.
3. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 3.1. Owner has notified Contractor and Surety, at the addresses described in Paragraph 10 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 3.2. Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 3.1; and
 - 3.3. Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract;
 2. Another contractor selected pursuant to Paragraph 4.3 to perform the Contract.
4. When Owner has satisfied the conditions of Paragraph 3, Surety shall promptly and at Surety's expense take one of the following actions:
 - 4.1. Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and Contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
5. If Surety does not proceed as provided in Paragraph 4 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 4.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

Project: Elevated Water Tank 1 Improvements

6. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To a limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:
 - 6.1. The responsibilities of Contractor for correction of defective Work and completion of the Contract;
 - 6.2. Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions or failure to act of Surety under Paragraph 4; and
 - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.
7. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.
8. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.
 - 12.1. Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
 - 12.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
 - 12.3. Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 12.4. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

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PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

**Phoenix Fabricators and Erectors, LLC
182 South County Road 900 East
Avon, IN 46123**

OWNER (Name and Address):

**City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542
770-967-6357**

CONSTRUCTION CONTRACT

Date: July 7, 2022

Amount \$ 2,479,571.00

Project/Description:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements**

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control, including electrical modifications and miscellaneous appurtenances.

SURETY (Name and Address of Principal Place of Business):

BOND

Bond Number:

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized

Infratec Consultants, Inc.
officer, agent, or representative.

Project: Water Tank 1 Improvements

CONTRACTOR AS PRINCIPAL

Company: _____

(Corp. Seal)

SURETY

Company: _____

(Corp. Seal)

Signature: _____

Name and Title:

Signature: _____

Name and Title:

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2. Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1. Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the addresses described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2. Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
 5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
 6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:
 - 6.1. Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2. Pay or arrange for payment of any undisputed amounts.
 7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
 8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
 9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
 10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
 11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
 12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
 13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.
 14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
 15. DEFINITIONS
 - 15.1. Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
 - 15.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
 - 15.3. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the

Infratec Consultants, Inc.

Contract or to perform and complete or comply with the other

Project: Water Tank 1 Improvements
terms thereof.

City of Flowery Branch

Project: Elevated Tank 1 Improvements

AFFIDAVIT OF NON-COLLUSION

To the City of Flowery Branch

The undersigned, as Bidder, declares that this Bid for the project known as **Flowery Branch Elevated Tank 1 Improvements** is made without collusion with any other person, firm, or corporation, that the Bidder has carefully examined the Contract Documents referred to and made a part hereof, and the Bidder agrees, if this Bid is accepted, that the Bidder will contract with The City of Flowery Branch, Georgia, to perform the Work specified in the Contract Documents, in the manner and time prescribed and according to the requirements herein set forth, and that the Bidder will accept in full payment therefore per the above prices.

Firm Name: PHOENIX-FABRICATORS AND ERECTORS LLC

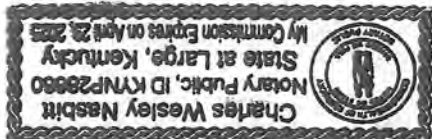
Authorized Signee

JONATHAN R DIXON

Title: VP SALES

DATE: 7/05/2022

Sworn to and subscribed before me this 5 day of JULY, 2022



Notary Public
Charles Wesley Nasbitt
 07/05/22
 Commission Expires April 29, 2023

**GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT
CONTRACTOR AFFIDAVIT AND AGREEMENT**

(To be filled out and submitted as a part of the Contract Agreement between the Owner and the General Contractor.)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm, or corporation which is contracting with the **City of Flowery Branch, Georgia** has registered with and is participating in a federal work authorization program* [any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to this contract with the **City of Flowery Branch, Georgia**, contractor will secure from such subcontractor(s) similar verification of compliance with O.C.G.A. 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to the **City of Flowery Branch, Georgia** at the time the subcontractor(s) is retained to perform such service.

EEV / Basic Pilot Program* User Identification Number

BY: Authorized Officer or Agent
(Contractor Name)

Date

Title of Authorized Officer or Agent of Contractor

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN
BEFORE ME ON THIS THE

_____ DAY OF _____, 20____

Notary Public

My Commission Expires: _____

* As of the effective date of O.C.G.A. 13-10-91, the applicable federal work authorization program is the “EEV / Basic Pilot Program” operated by the U. S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

CERTIFICATION OF OWNER'S ATTORNEY

I, _____, the undersigned, the duly authorized and acting legal representative of **the City of Flowery Branch, Georgia**, do hereby certify as follows:

I have examined the attached Agreement between the Owner and Contractor for the project known as **Elevated Water Tank 1 Improvements** and the manner of execution thereof, and I am of the opinion that the aforesaid document appears on its face to have been duly executed by the proper parties thereto acting through their duly authorized representatives; that from such document said representatives appear to have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements appear to constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions, and provisions thereof.

Attorney for City of Flowery Branch

Date

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the

Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

- 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
- 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

- 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
- 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

- 1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
- 2. is of such a nature as to require a change in the Contract Documents; or
- 3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

- B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments*:

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to

permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 - 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
 - 1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners,

employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of

them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or

entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its

use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner

and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. Limitation on Use of Site and Other Areas:

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts

any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.

- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

- 1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
- 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

- 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
- 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the

Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe

access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER’S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner’s duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner’s Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws

and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations

on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of,

and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of

executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
 - 1. deny the Claim in whole or in part;
 - 2. approve the Claim; or
 - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 - 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 - 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in

the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers,

architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's

review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
- 2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
- 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and

- d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
3. Contractor's repeated disregard of the authority of Engineer; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other

dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or
3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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SUPPLEMENTARY CONDITIONS

The following paragraphs shall be added to, or replaced in Section 00700, General Conditions. Each paragraph is referenced by number corresponding with the appropriate paragraph in the General Conditions. Additional paragraphs that are added to the General Conditions shall have a letter designator following the paragraph number.

Replace entire Article 5 with the SG 5 below.

SG ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided herein.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified herein, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified herein, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of full compliance with these insurance requirements or failure of Owner to identify a deficiency from evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. By requiring such insurance and insurance limits herein, Owner does not represent that coverage and limits will necessarily be adequate to protect Contractor, and such coverage and limits shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified herein, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided herein or required by Laws or Regulations, whichever is greater;
3. include completed operations insurance;
4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other addi-

tional insured identified herein to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified herein, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:

a. State: Statutory Limit

b. Federal: Statutory Limit

c. Employer's Liability: \$1,000,000/1,000,000/1,000,000

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of Contractor:

a. General Aggregate: \$2,000,000

b. Products and completed operations, aggregate: \$2,000,000

c. Personal and Advertising Injury: \$1,000,000

d. Each Occurrence (Bodily Injury and Property Damage): \$1,000,000

e. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.

f. Excess or Umbrella Liability:

General Aggregate \$3,000,000

Each Occurrence \$1,000,000

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:

a. Combined Single Limit of Bodily Injury and Property Damage):
\$2,000,000

4. The Contractual Liability coverage required by Paragraph 5.04.B.4 of the General Conditions shall provide coverage for not less than the following amounts:

a. General Aggregate \$1,000,000

b. Each occurrence (Bodily Injury and Property Damage): \$1,000,000

5. The following individuals or entities are to be included on the indicated policies as additional insured's: City of Flowery Branch, Georgia, and Infratec Consultants, Inc.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof.

1. This insurance shall:

- a. include the interests of Owner, Contractor, Subcontractors, Engineer and any other individuals or entities identified herein, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;
- b. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework, and materials and equipment in transit and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required herein;
- c. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
- d. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
- e. allow for partial utilization of the Work by Owner;
- f. include testing and startup; and
- g. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

2. Contractor shall be responsible for any deductible or self-insured retention.

3. The policies of insurance required to be purchased and maintained by Contractor in accordance with this Paragraph SC-5.06.A shall comply with the requirements of paragraph 5.06.C of the General Conditions.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required herein or by the Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified herein, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been

given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified herein. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified herein to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified herein to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

SG2.02 Replace Article 2.02 paragraph A with the following: A. Owner shall furnish the Contractor with a set of conformed construction drawings in an electronic version of each in PDF format along with one copy of the conformed specifications in PDF format. Owner will furnish 4 sets of the contract documents (specifications) for execution by the Contractor with 2 copies for the Owner, and 2 copies for the Contractor.

SG3.06 Replace Article 3.06 Electronic Data Paragraph A with the following: A. The Owner or Engineer may furnish electronic data to the Contractor or Contractor to Owner or Engineer as needed. Electronic format will be defined as PDF format.

SECTION 01120 – ALLOWANCES

PART 1 – GENERAL

1.1 SUMMARY

The Contractor shall include in his unit price bid proposal the allowances stated herein. These allowances shall cover all equipment, materials and services necessary for the contractor or others to complete the work called for herein. The Contractor's cost for handling, coordinating and any other costs that are necessary to complete these items but not specifically covered in the allowance shall be included in the Contractor's lump sum bid. If the final amount of any allowance item is **less than** the listed cost, the cost shall then be adjusted to reflect actual cost.

PART 2 - SCHEDULE OF ALLOWANCES

2.1 GEOTECHNICAL ALLOWANCE

The Contractor shall coordinate with the geotechnical firm (Geo-Hydro) to perform soils evaluation and compaction testing for the tank foundation sub-grade. The cost for these services shall be covered under an allowance item. The Contractors cost for coordination will be included in the lump sum bid for the tank. Note that concrete testing will be included in the Contractors lump sum bid amount.

PART 3 – EXECUTION

3.1 INSTRUCTIONS TO BIDDERS

The Contractor shall include the invoices from each vendor of an allowance item on their pay request.

END OF SECTION 01120

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SECTION 01150 MEASUREMENT AND PAYMENT

PART 1- GENERAL

1.1 GENERAL

No quantities shall be measured for payment except items listed in the proposal, unless the Owner has approved "extra" work in accordance with the contract documents and has so advised the Contractor before the work was actually performed.

Any and all other materials, labor, etc., furnished and required shall be considered as incidental to the items to be measured.

The unit or lump sum prices bid for the various items shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary and/or required to complete the work as shown on the plans and called for in the specifications.

The quantities to be paid for shall be determined by actual measurement of the amounts placed. The Owner's Consultant shall make all measurements and the Contractor shall make certain all work has been measured before concealing; otherwise, he may be required to uncover or make accessible any work so concealed in order to receive payment for such items.

1.2 Part 1: LUMP SUM ITEMS

All items shown on the plans or called for in the specifications and not specifically shown in the proposal as not being included will be paid for at the lump sum price shown in the proposal. Lump sum items will be paid for based on approved construction schedules and percentage of lump sum item actually completed at time of pay request.

1. 250,000 Gallon Water Storage Tank

Payment for this Part of the Construction Contract shall include all materials, equipment, tools, labor, incidentals, and appurtenances necessary to construct the 250,000 gallon "spheroid" type water storage tank as shown on the plan drawings and called for in the specifications. This Part shall include but not be limited to: site grading and piping; valve vault and valves; asphalt and gravel drives, chain link fence and gates; reinforced concrete foundation; fabrication, installation, painting and testing of the steel tank and accessories. All items of construction not specifically listed as a unit price item shall be included in the lump sum bid.

1.3 Part 2: UNIT PRICE ITEMS

All items shown on the plans and called for in the specifications, listed as unit price items on the bid form, will be paid for at the unit item price shown in the proposal. The unit price shall include all materials, equipment, tools, labor, incidentals, and appurtenances required to complete the work as shown on the plan drawings and called for herein. Allowance unit price items shall be paid based upon invoices from the vendor attached to the Contractors pay estimate.

1. Silt Fence Type C (Linear Foot)

This item will be paid for at the unit price item bid per linear foot of silt fence installed as measured in place. This price will include maintaining silt fence during construction of the project, replacement if required, and removal upon completion of the project in conjunction with satisfactory vegetative grassing having been established.

2. Hay Bales Double Row (Including Mulch)

Payment for this item will be at the unit price bid per linear foot of hay bales installed as measured

in place.

3. Rip Rap D.O.T. Type 1

This item will be paid for at the unit price bid in the proposal. The unit price bid per square yard shall be full compensation all materials, hauling, labor, and equipment necessary to complete the work. The stone will be measured in place with the area obtained by multiplying length times the width.

4. #57 Gravel Drive Replacement

This item will be paid for at the unit price bid in the proposal. The unit price bid per ton shall be full compensation for all materials, hauling, labor, and equipment necessary to replace all disturbed gravel roads.

5. Construction Exit

This item will be paid for at the unit price bid in the proposal. The price shall include installation, maintenance, and removal.

6. Grassing (Temporary and Permanent)

This item will be paid for at the unit price item bid per acre for grassing of the disturbed areas as indicated on the drawings and called for in the specifications. Payment will be for established temporary or permanent grassing of the disturbed areas with the area quantity being measured by multiplying length times the width to the nearest 0.1 acre.

7. Geotechnical Testing Allowance

This item will be paid for at the unit price bid for the allowance associated with providing soils compaction testing along the pipeline backfill area. The locations will be as directed by the Owner and as coordinated by the Contractor. The exact price will be as provide by an invoice from the Geotechnical firm and the final unit price item will be adjusted accordingly.

8. Remove and Replace Existing Fence

This item will be paid for at the unit price bid in the proposal. The price shall include removing and replacing the existing fence and post as needed for access to the site. The Contractor shall provide temporary barrier fencing during hours not on site.

1.3 STORED MATERIALS

Stored materials prices will be reimbursable at the price paid for the product by the Contractor. Only those materials which are properly stored on the job site to the approval of the Owner's Consultant will be paid for as stored material and a bill-of-sale for each item must be submitted with each monthly pay request for stored material. A ten percent retain age shall be held on stored materials. All cost associated with covering and protecting stored materials and equipment will be borne by the Contractor. The stored materials amount may not be larger than the total amount of the bid price item.

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% &RRUGLQDWH &RQUUDFWRU V &RQVWUXFWLRQ 6FKHGXOH ZLW
VXEFRQUUDFWV 6XEPLWWDOV 6FKHGXOH SURJUHVV UHSRUWV
VFKHGXOHV DQG UHSRUWV

6HFXUH WLPH FRPPLWPHQWV IRU SHUIRUPLQJ FULWLFDO HOH
LQYROYHG

&RRUGLQDWH HDFK FRQVWUXFWLRQ DFWLYLW\ LQ WKH QHWZ
WKHP LQ SURSHU VHTXHQFH

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\$ 3UHSUDUDWLRQ 6XEPLW D VFKHGXOH RI VXEPLWWDOV DUUDQ
UHTXLUH E\ FRQVWUXFWLRQ VFKHGXOH ,QFOXGH WLPH UHTX
PDQXIDFWXULQJ IDEULFDWLRQ DQG GHOLYHU\ ZKHQ HVWDEOL

&RRUGLQDWH 6XEPLWWDOV 6FKHGXOH ZLWK OLVW RI VXEFRQ
&RQUUDFWRU V &RQVWUXFWLRQ 6FKHGXOH

6XEPLW FRQFXUUHQWO\ ZLWK WKH ILUVW FRPSOHWH VXEPLW
6FKHGXOH

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\$ 7LPH)UDPH ([WHQG VFKHGXOH IURP GDWH HVWDEOLVKHG IRU
)LQDO &RPSOHWLRQ

&RQUUDFW FRPSOHWLRQ GDWH VKDOO QRW EH FKDQJHG E\ V
DQ HDUO\ FRPSOHWLRQ GDWH XQOHVV VSHFLILFDOO\ DXWKR

% \$FWLYLWLHV 7UHDW HDFK DUHD DV D VHSDUDWH QXPEHUG
:RUN &RPSO\ ZLWK WKH IROORZLQJ

\$FWLYLW\ 'XUDWLRQ

3URFXUHPHQW \$FWLYLWLHV ,QFOXGH SURFXUHPHQW SURFH
LWHPV DQG PDMRU LWHPV UHTXLULQJ D F\FOH RI PRUH WKD
VFKHGXOH 3URFXUHPHQW F\FOH DFWLYLWLHV LQFOXGH EX
DSSURYDOV SXUFKDLV LQJ IDEULFDWLRQ DQG GHOLYHU\

6XEPLWWDO 5HYLHZ 7LPH ,QFOXGH UHYLHZ DQG UHVXEPLW
6HFWLRQ 6XEPLWWDO 3URFHGXUHV LQ VFKHGXOH &RRUGL
&RQUUDFWRU V &RQVWUXFWLRQ 6FKHGXOH ZLWK 6XEPLWWDO

6WDUWXS DQG 7HVWLQJ 7LPH

&LW\ RI)ORZHU\ %UDQFK &RQVWUXFWLRQ 3URJUHVV 'REFX
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV %LG 6HW

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6XEVWDQWLDO &RPSOHWLRQ ,QGLFDWH FRPSOHWLRQ LQ DG
6XEVWDQWLDO &RPSOHWLRQ DQG DOORZ WLPH IRU 2ZQHUV
SURFHGXUHV QHFHVVDU\ IRU FHUWLILFDWLRQ RI 6XEVWDQWL
& &RQVWUDLQWV ,QFOXGH FRQVWUDLQWV DQG ZRUN UHVWULFV
DQG DV IROORZV LQ VFKHGXOH DQG VKRZ KRZ WKH VHTXHGFH
3KDVLRQJ \$UUDQJH OLVW RI DFWLYLWLHV RQ VFKHGXOH E\ S
:RUN 5HVWULFWLRQV 6KRZ WKH HHHFW RI WKH IROORZLRQJ
D &RRUGLQDWLRQ ZLWK H[LVWLQJ FRQVWUXFWLRQ
E /LPLWDWLRQV RI FRQLQXHG RFFXSDQFLHV
F 8QLQWHUUXSWLEOH VHUYLFHV
G 3DUWLDO RFFXSDQF\ EHIRUH 6XEVWDQWLDO &RPSOHWLRQ
H 8VH RI SUHPLVHV UHVWULFWLRQV
I 3URYLVLRQV IRU IXWXUH FRQVWUXFWLRQ
J 6HDVRQDO YDULDWLRQV
K (QYLURQPHQWDO FRQWURO
:RUN 6WDJHV ,QGLFDWH LPSRUWDQW VWDJHV RI FRQVWUXF
:RUN
OLOHVWRQH V ,QFOXGH PLOHVWRQH V LQGLFDWHG LQ WKH &
LQFOXGLQJ EXW QRW OLPLWHG WR WKH 1RWLFH WR 3URFH
&RPSOHWLRQ
' &RQWUDFW 0RGLILFDWLRQV)RU HDFK SURSRVHG FRQWUDFW
VXEPLVVLRQ SUHSDUH D WLPH LPSDFW DQDO\VLV XVLQJ IUDJQ
SURSRVHG FKDQJH RQ WKH RYHUDOO SURMHFW VFKHGXOH

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\$ *HQHUDO 3UHSDUH QHWZRUN GLDJUDPV XVLQJ \$21 DFWLYLW
% 3UHOLPLQDU\ 1HWZRUN 'LDJUDP 6XEPLW GLDJUDP ZLWKLQ
1RWLFH WR 3URFHG 2XWOLQH VLJQLILFDQW FRQVWUXFWLRQ
FRQVWUXFWLRQ ,QFOXGH VNHOWRQ GLDJUDP IRU WKH UHPD
UHTXLUPHQW SUHGLFWLRQ EDVHG RQ LQGLFDWHG DFWLYLWLHV
& &30 6FKHGXOH 3UHSDUDWLRQ 3UHSDUH D OLVW RI DOO DFWL
8VLQJ WKH SUHOLPLQDU\ QHWZRUN GLDJUDP SUHSDUH D VNHOW
FULWLFDO SDWKV

\$FWLYLWLHV ,QGLFDWH WKH HVWLPDWHG WLPH GXUDWLRQ
RI HDFK DFWLYLW\ LQ UHODWLRQ WR RWKHU DFWLYLWLHV ,
IROORZLRQJ DFWLYLWLHV

D 3UHSDUDWLRQ DQG SURFHVVLRQJ RI VXEPLWDOV
E 0RELOLJDWLRQ DQG GHPRELOLJDWLRQ
F 3XUFKDVH RI PDWHULD
G 'HOLYHU\
H)DEULFDWLRQ

&LW\ RI)ORZHU\ %UDQFK &RQVWUXFWLRQ 3URJUHVV 'RFX
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I 8WLOLW\ LQWHUUXSWLRQV
J ,QVWDOODWLRQ
K :RUN E\ 2ZQHU WKDW PD\ DIIHFW RU EH DIIHFWHG E\ &RQW
L 7HVWLQJ
&ULWLFDO 3DWK \$FWLYLWLHV ,GHQWLI\ FULWLFDO SDWK DF
FRPSOHWLRQ GDWHV 6FKHGXOHG VWDUW DQG FRPSOHWLRQ
&RQWUDFW PLOHVWRQH GDWHV
3URFHVV LQJ 3URFHVV GDWD WR SURGXFH RXWSXW GDWD R
QHWZRUN 5HYLVH GDWD UHRUJDQLJH DFWLYLW\ VHTXHQFHV
QHFHVVDU\ WR SURGXFH WKH &30 VFKHGXOH ZLWKLQ WKH OL
)RUPDW 0DUN WKH FULWLFDO SDWK /RFDWH WKH FULWLFDO
SDWKV ZLWK PRVW IORDW QHDU WKH HGJHV
D 6XEQHWZRUNV RQ VHSUDUWH VKHHWV DUH SHUPLVVLEOH
SDWK
' ,QLWLDO ,VXXH RI 6FKHGXOH 3UHSDUH LQLWLDO QHWZRUN GL
WRWDO IORDW VRUW ,GHQWLI\ FULWLFDO DFWLYLWLHV 3UH
&RQWUDFWRU RU VXEFQRWUDFWRU DQG WKH :RUN RU DFWLY
'HVFULSWLRQ RI DFWLYLW\
3ULQFLSDO HYHQWV RI DFWLYLW\
,PPHGLDWH SUHFHGLQJ DQG VXFFHHGLQJ DFWLYLWLHV
(DUO\ DQG ODWH VWDUW GDWHV
(DUO\ DQG ODWH ILQLVK GDWHV
\$FWLYLW\ GXUDWLRQ LQ ZRUNGD\W
7RWDO IORDW RU VODFN WLP
\$YHUDJH VLJH RI ZRUNIRUFH
(6FKHGXOH 8SGDWLQJ &RQFXUUHQW ZLWK PDNLQJ UHYLVLRQV
VKRZLQJ WKH IROORZLQJ
,GHQWLILFDWLRQ RI DFWLYLWLHV WKDW KDYH FKDQJHG
&KDQJHV LQ HDUO\ DQG ODWH VWDUW GDWHV
&KDQJHV LQ HDUO\ DQG ODWH ILQLVK GDWHV
&KDQJHV LQ DFWLYLW\ GXUDWLRQV LQ ZRUNGD\W
&KDQJHV LQ WKH FULWLFDO SDWK
&KDQJHV LQ WRWDO IORDW RU VODFN WLP
&KDQJHV LQ WKH &RQWUDFW 7LPH
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\$ 'DLO\ &RQVWUXFWLRQ 5HSRUWV 3UHSDUH D GDLO\ FRQVWUXFW
LQIRUPDWLRQ FRQFHUQLQJ HYHQWV DW 3URMHFW VLWH
/LVW RI VXEFQRWUDFWRUV DW 3URMHFW VLWH
(TXLSPHQW DW 3URMHFW VLWH

&LW\ RI)ORZHU\ %UDQFK &RQVWUXFWLRQ 3URJUHVV 'RFX
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l r c l

0DWHULDO GHOLYHULHV
+LJK DQG ORZ WHPSHUDWXUHV DQG JHQUHO ZHDWKHU FRQ
\$FFLGHQWV
6WRSSDJHV GHOD\ VKRUWDJHV DQG ORVVHV
0HWHU UHGGLQJV DQG VLPLODU UHFRUGLQJV
2UGHUV DQG UHTXHVWV RI DXWKRULWLHV KDYLQJ MXULVGLF
6HUYLEFHV FRQQHFHWG DQG GLVFRQQHFHWG
(TXLSPHQW RU V\WHP WHVWV DQG VWDUWXSV
%)LHOG &RQGLWLRQ 5HSRUW ,PPHGLDWHO\ RQ GLVFRYHU\ RI
DQG WKH &RQUDFW 'RFXPHQWV SUHSDUH DQG VXEPLW D GHW
GHVFULSWLRQ RI WKH GLIHULQJ FRQGLWLRQV WRJHWKHU ZLW
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\$ &RQUDFWRU V &RQVUXFWLRQ 6FKHGXOH 8SGDWLQJ \$W PR
UHIOHFW DFWXDO FRQVUXFWLRQ SURJUHVV DQG DFWLYLWLHV
UHJXODUO\ VFKHGXOHG SURJUHVV PHHWLQJ
5HYLVH VFKHGXOH LPPHGLDWHO\ DIWHU HDFK PHHWLQJ RU R
EHHQ UHFRJQLJHG RU PDGH ,VVXH XSGDWHG VFKHGXOH FRQ
VXFK PHHWLQJ
,QFOXGH D UHSRUW ZLWK XSGDWHG VFKHGXOH WKDW LQGLFD
OLPLWHG WR FKDQJHV LQ ORJLF GXUDWLRQV DFWXDO VWD
\$V WKH :RUN SURJUHVVHV LQGLFDWH \$FWXDO &RPSOHWLRQ
% 'LVWULEXWLRQ 'LVWULEXWH FRSLHV RI DSSURYHG VFKHGXOH
FRQUDFWRUV WHVWLQJ DQG LQVSHFWLQJ DJHQFLHV DQG RW
QHGG WR NQRZ VFKHGXOH UHVSQVLELOLW\
3RVW FRSLHV LQ 3URMHFW PHHWLQJ URRPV DQG WHPSRUDU\
:KHQ UHYLVLRQV DUH PDGH GLVWULEXWH XSGDWHG VFKHGX
WKH VDPH ORFDWLRQV 'HOHH SDUWLHV IURP GLVWULEXWL
DVVLJQH SRUWLRQ RI WKH :RUN DQG DUH QR ORQJHU LQYRQ
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&LW\ RI)ORZHU\ %UDQFK &RQVUXFWLRQ 3URJUHVV 'RFX
(OHYDWHG :DWHU 7DQN ,PSURYHPPHQWV %LG 6HW

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7KL V 3DJH ,QWHQWLRQDOO\ /HIW %ODQN

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\$ 7KLV 6HFWLRQ VSHFLILHV WKH JHQUHO PHWKRGV DQG UHTXL
6KRS 'UDZLQJV 3URGXFW 'DWD 6DPSOHV DQG &RQVWUXFW
\$GGLWLRQDO JHQUHO VXEPLVVLRQ UHTXLUHPHQWV DUH FRQ
'HWDLOHG VXEPLWWDO UHTXLUHPHQWV DUH VSHFLILHG LQ WKH

% \$OO VXEPLWWDOV VKDOO EH FOHDUO\ LGHQWLILHG E\ UHIHUC
1XPEHU RU 'HWDLO DV DSSOLFDEOH 6XEPLWWDOV VKDOO EH FO
SUHVHQDWLRQ RI GDWD

& 6XEPLW D OLVW RI VKRS GUDZLQJV LQGLFDWLQJ VSHFLILFD
VXEPLVVLRQ VFKHGXOH IRU DOO VKRS GUDZLQJV IRU WKH &RQV

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\$ 6KRS 'UDZLQJV

6KRS GUDZLQJV DV VSHFLILHG LQ LQGLYLGXDO 6HFWLRQV LQ
IDEULFDWLRQ DQG HUHFWLRQ LQVWDOODWLRQ ZRUNLQJ GU
GLDJUDPV DFWXDO VKRSZRUN PDQXIDFWXULQJ LQVWUXFWLR
GLDJUDPV FRRUGLQDWLRQ GUDZLQJV LQGLYLGXDO V\ VWHP
UHSRUWV LQFOXGLQJ SHUIRUPDQFH FXUYHV DQG FHUWLILFDW

\$OO VKRS GUDZLQJV VXEPLWWHG E\ VXEFRQWUDFWRUV VKDO
FKHFNLQJ 7KH &RQWUDFWRU VKDOO EH UHVSQVLEOH IRU W
DV WR SUHYHQW GHOD\ LQ GHOLYHU\ RI PDWHULDOV

&KHFN DOO VXEFRQWUDFWRU V VKRS GUDZLQJV UHJDUGLQJ
PDWHULDOV DQG GHWDLOV WR PDNH VXUH WKDW WKH\ FRQF
UHODWHG 6HFWLRQV 5HWXUQ VKRS GUDZLQJV IRXQG WR EH
WKH VXEFRQWUDFWRUV IRU FRUHFWRQ SULRU WR VXEPLV

\$OO GHWDLOV RQ VKRS GUDZLQJV VKDOO VKRZ FOHDUO\ WK
PDLQ PHPEHUV DQG OLQHV RI WKH VWUXFWXUH DQG ZKHUH
GHSHQG XSRQ ILHOG PHDVXUHPHQWV VXFK PHDVXUHPHQWV
GUDZLQJV EHIRUH EHLQJ VXEPLWWHG

% 3URGXFW 'DWD

3URGXFW GDWD DV VSHFLILHG LQ LQGLYLGXDO 6HFWLRQV
PDQXIDFWXUH SURGXFWV VRPHWLPHV UHIHUUHG WR DV
PDQXIDFWXUH V SURGXFW VSHFLILFDWLRQ DQG LQVWDOODW
SDWWHUQV PDQXIDFWXUH V SULQWHG VWDWHPHQWV RI FR
GLDJUDPV DQG WHPSODWHV FDWDORJ FXWV SURGXFW SKRV
SULQWHG SHUIRUPDQFH FXUYHV DQG RSHUDWLRQDO UDQJH G
LQVSHFWLRQ DQG WHVW UHSRUWV DQG FHUWLILFDWLRQV
PDLQWHQDQFH LQVWUXFWLRQV DQG UHFRPPHQGHG VSDUH S
ZDUUDQWLHV DV DSSOLFDEOH WR WKH ZRUN

& 6DPSOHV

&LW\ RI)ORZHU\ %UDQFK
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV

6XEPLWWDO 3URFHGX
%LG 6HW

r

6DPSOHV VSHFLILHG LQ LQGLYLGXDO 6HFWLRQV LQFOXGH S
VHFWLRQV RI PDQXIDFWXUH RU IDEULFDWHG ZRUN VPDOO
FRPSOHWH XQLWV RI UHSHWLWLYHO\ XVHG SURGXFWV FROR
VHWV VSHFLPHQV IRU FRRUGLQDWLRQ RI YLVXDO HHHFW JU
XVHG E\ WKH (QJLQHUU RU ZZQHU IRU LQGHSHQGHQW LQVSHF
WKH ZRUN

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\$ 5HYLHZ VKRS GUDZLQJV SURGXFW GDWD DQG VDP SOHV LQFOX
VXEPLVVLRQ WR GHWHUPLQH DQG YHUL\ WKH IROORZLQJ

)LHOG PHDVXUHPHQWV

)LHOG FRQVWUXFWLRQ FULWHULD

&DWDORJ QXPEHUV DQG VLPLODU GDWD

&RQIRUPDQFH ZLWK VSHFLILFDWLRQV

% (DFK VKRS GUDZLQJ VDP SOH DQG SURGXFW GDWD VXEPLWWH
&RQWUDFWRU V VWDPS LQLWLDOHG RU VLJQHG FHUWLI\LQJ
SURGXFWV ILHOG PHDVXUHPHQWV DQG ILHOG FRQVWUXFWLR
LQIRUPDWLRQ ZLWKLQ WKH VXEPLWWDO ZLWK UHTXLUHPHQWV R

& 6KRS GUDZLQJV DQG SURGXFW GDWD VKHHWV LQ [LQ DQ
DQ RUGHUO\ IDVKLRQ DQG EHDU WKH DERYH &HUWLILFDWLRQ 6V
VKHHW VKDOO IXOO\ GHVFULEH WKH SDFNDJHG GDWD DQG LQ
SDFNDJH 3URYLGH WR WKH 5HVLGHQW 3URMHFW 5HSUHVHQWDV
VKRS GUDZLQJV SURGXFW GDWD DQG VDP SOHV DW WKH WLPH R

' 7KH &RQWUDFWRU VKDOO XWLOLJH D VXEPLWWDO LGHQWLILF
PDQQHU

7KH ILUVW ILYH GLJLWV VKDOO EH WKH DSSOLFDEOH 6HFWLR

7KH QH[W WKUHH GLJLWV VKDOO EH WKH QXPEHUV WR
VHSDUDWH LWHP RU GUDZLQJ VXEPLWWHG XQGHU HDFK VSHFL

7KH ODVW FKDUDFWHU VKDOO EH D OHWWHU \$ WR = LQGLF
WKH VDPH 'UDZLQJ L H \$ VW VXEPLVVLRQ % QG VXEPLVV
W\SLFDO VXEPLWWDO QXPEHU ZRXOG EH DV IROORZV

%

6HFWLRQ IRU &RQFUHWH

7KH HLJKWK LQLWLDO VXEPLWWDO XQGHU WKLV VHFW

% 7KH VHFRQG VXEPLVVLRQ ILUVW UHVXEPLVVLRQ RI WK

(1RWLI\ WKH (QJLQHUU LQ ZULWLQJ DW WKH WLPH RI VXEPLWW
WKH UHTXLUHPHQWV RI WKH &RQWUDFW 'RFXPHQWV

) 7KH UHYLHZ DQG DSSURYDO RI VKRS GUDZLQJV VDP SOHV RU S
UHOLHYH WKH &RQWUDFWRU IURP WKH UHVSQVLELOLW\ IRU W
7KH &RQWUDFWRU DVVXPHV DOO ULNVV RI HUURU DQG RPLVV
UHVSQVLELOLW\ WKHUH IRU

* 1R SRUWLRQ RI WKH ZRUN UHTXLULQJ D VKRS GUDZLQJ VDP SO
VKDOO DQ\ PDWHULDOV EH IDEULFDWHG RU LQVWDOOHG SULRU
VXFK LWHP)DEULFDWLRQ SHUIRUPHG PDWHULDOV SXUFKDVHG

&LW\ RI)ORZHU\ %UDQFK
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV

6XEPLWWDO 3URFHGX
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ZKLFK GRHV QRW FRQIRUP WR DSSURYHG VKRS GUDZLQJV DQG G
7KH 2ZQHU ZLOO QRW EH OLDEOH IRU DQ\ H[SHQVH RU GHOD
UHTXLUHG WR DFFRPSOLVK FRQIRUPLW\

+ 3URMHFW ZRUN PDWHULDOV IDEULFDWLRQ DQG LQVWDOODWL
DSSOLFDEOH VDP SOHV DQG SURGXFW GDWD

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\$ 0DNH VXEPLWWDOV SURPSWO\ LQ DFFRUGDQFH ZLWK DSSURYH
FDXVH QR GHOD\ LQ WKH :RUN RU LQ WKH ZRUN RI DQ\ RWKHU F

% (DFK VXEPLWWDO DSSURSULDWHO\ FRGHG ZLOO EH UHWXUQH
RI VXEPLWWDO E\ WKH (QJLQHUU

& 1XPEHU RI VXEPLWWDOV UHTXLUHG

6KRS 'UDZLQJV)RXU FRSLHV

3URGXFW 'DWD 7KUHH FRSLHV

6DPSOHV 6XEPLW WKH QXPEHU VWDWHG LQ WKH UHVSHFWLY

' 6XEPLWWDOV VKDOO FRQWDLQ

7KH GDWH RI VXEPLVLRLQ DQG WKH GDWHV RI DQ\ SUHYLRXV

7KH 3URMHFW WLWOH DQG QXPEHU

&RQWUDFWRU LGHQWLILFDWLRQ

7KH QDPHV RI

D &RQWUDFWRU

E 6XSSOLHU

F 0DQXIDFWXUHU

,GHQWLILFDWLRQ RI WKH SURGXFW ZLWK WKH VHFWRU QXP

)LHOG GLPHQVLRQV FOHDUO\ LGHQWLILHG DV VXFK

5HODWLRQ WR DGMDFHQW RU FULWLFDO IHDWXUHV RI WKH Z

\$SSOLFDEOH VWDQGDUGV VXFK DV \$670 RU)HGHUO 6WDQG

,GHQWLILFDWLRQ RI GHYLDWLRQV IURP &RQWUDFW 'RFXPHQW

,GHQWLILFDWLRQ RI UHYLVLRQV RQ UHVXEPLWWDOV

\$Q LQ [LQ EODQN VSDFH IRU &RQWUDFWRU DQG (QJLQH

:KHUH FDOFXODWLRQV DUH UHTXLUHG WR EH VXEPLWWHG EV

RWKHU WKDQ WKH SUHSDUHU VKDOO KDYH FKHFNHG WKH FDO

VKDOO FOHDUO\ VKRZ WKH QDPHV RI WKH SUHSDUHU DQG RI V

(&RQWUDFWRU PD\ HOHFW WR VFDQ VKRS GUDZLQJV DQG VXEPL
ZLWK D &RYHU VKHHW IRU HDFK VXEPLWWDO ZLWK WKH DERYH L

5(9,(: 2) 6+23 '5\$:,1*6 352'8&7 '\$7\$:25.,1* '5\$:,1*6 \$1' 6\$03/(6

\$ 7KH UHYLHZ RI VKRS GUDZLQJV GDWD DQG VDP SOHV ZLOO EH

&LW\ RI)ORZHU\ %UDQFK

6XEPLWWDO 3URFHGX

(OHYDWHG :DWHU 7DQN ,PSURYHHPHQWV

%LG 6HW

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GHVLJQ FRQFHSW DQG &RQWUDFW 'RFXPHQWV 7KH\ VKDOO QRV
\$V SHUPLWWLQJ DQ\ GHSDUWXUH IURP WKH &RQWUDFW UHTX
\$V UHOLHYLQJ WKH &RQWUDFWRU RI UHVSQRVLELOLW\ IRU D
DQG PDWHULDOV
\$V DSSURLQJ GHSDUWXUHV IURP GHWDLOV IXUQLVKHG E\
SURLGHHG KHUHLQ
% 7KH &RQWUDFWRU UHPDLQV UHVSQRVLEOH IRU GHWDLOV DQG
DOO RWKHU DVVRFLDWHG ZRUN DQG WUDGHV IRU VHOHFWLQJ
DVVHPEO\ DQG IRU SHUIRUPLQJ ZRUN LQ D VDIH PDQQHU
& ,I WKH VKRS GUDZLQJV GDWD RU VDP SOHV DV VXEPLWWHG GH
IURP WKH &RQWUDFW UHTXLUPHQWV ZKLFK (QJLQH HU ILQGV W
EH VR PLQRU DV QRW WR LQYROYH D FKDQJH LQ &RQWUDFW 3UL
UHWXUQ WKH UHYLHZHG GUDZLQJV ZLWKRXW QRWLQJ DQ H[FH
' 6XEPLWWDOV ZLOO EH UHWXUQH G WR WKH &RQWUDFWRU XQGHU
312 (;&(37,216 127(' ,QGLFDWHV WKH VXEPLWWDO KDV
FRQIRUPDQFH ZLWK WKH &RQWUDFW 'RFXPHQWV DQG QR H[FH
ZLWK WKH ZRUN
30\$. (&255(&7,216 127(' ,QGLFDWHV WKH VXEPLWWDO KD
FRQIRUPDQFH ZLWK WKH &RQWUDFW 'RFXPHQWV DQG ZRUN PD
FRPPHQWV 5H VXEPLWWDO ZLOO QRW EH UHTXLHG
35(9,6(\$1' 5(68%0,7' ,QGLFDWHV WKH VXEPLWWDO KDV EHH
ZLWK WKH &RQWUDFW 'RFXPHQWV DQG ZRUN PD\ QRW SU
H[FHSLRQV KDYH EHHQ WDNHQ DUH FRUHFHWHG &RQWUDFW
UHYLHZ
35(-(&7(' ,QGLFDWHV WKH VXEPLWWDO GRHV QRW PHHW
'RFXPHQWV \$ QRWDWLRQ ZLOO EH PDGH RQ WKH VKRS GUD
7KH &RQWUDFWRU PXVW UHVXEPLW WKH HQWLUH SDFNDJH I
FRQIRUPDQFH ,W PD\ EH QHFHVVDU\ WR UHVXEPLW XVLRQJ D
PHHW WKH &RQWUDFW 'RFXPHQWV
368%0,7 63(&),(' ,7(0' ,QGLFDWHV WKDW RQH RU PRUH LW
PLVVLQJ RU LQFRPSOHWH :RUN PD\ FRPPHQFH RQ DQ\ LWHP
WDNHQ PLVVLQJ RU LQFRPSOHWH LWHPV PXVW EH VXEPLWWH
(5H VXEPLWWDOV ZLOO EH KDQGOHG LQ WKH VDPH PDQQHU DV
&RQWUDFWRU VKDOO LGHQWL\ DOO UHYLVLRQV PDGH WR WKH
WUDQVPLWWDO RU RQ WKH VKRS GUDZLQJV E\ XVH RI UHYLVLRQ
UHVXEPLWWDO VKDOO FOHDUO\ UHVSRRG WR HDFK FRPPHQW
VXEPLVLRQ \$GGLWLRQDOO\ WKH &RQWUDFWRU VKDOO GLUHFW
RWKHU WKDQ WKH FRUHFHWHLRQV UHTXHVWHG E\ WKH (QJLQH HU
) 3DUWLDO VXEPLWWDOV PD\ QRW EH UHYLHZHG 7KH (QJLQH HU
FRPSOHWHQHVV RI D VXEPLWWDO 6XEPLWWDOV QRW FRPSOHWH
ZLOO EH FRQVLGHUH G 5(-(&7(' XQWLO UHVXEPLWWHG 7KH (QJ
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* 5HSHWLWLYH 5HYLHZ
6KRS GUDZLQJV DQG RWKHU VXEPLWWDOV ZLOO EH UHYLHZH
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DQG DW WKH &RQWUDFWRU V H[SHQVH EDVHG RQ WKH (QJL
&RQWUDFWRU VKDOO UHLPXUVH WKH 2ZQHU IRU DOO VXFK
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(QJLQHUU 6XEPLWWDOV DUH UHTXLUHG XQWLO DSSURYHG
\$Q\ QHHG IRU PRUH WKDQ RQH UHVXEPLVVLRQ RU DQ\ RWKHU
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+ ,I WKH &RQWUDFWRU FRQVLGHUV DQ\ FRUHHFWLRQ LQGLFDWH
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(QJLQHUU DW OHDVW ZRUNLQJ GD\ SULRU WR UHOHDVH IRU P
, :KHQ WKH VKRS GUDZLQJV KDYH EHHQ FRPSOHWHG WR WKH
&RQWUDFWRU VKDOO FDUU\ RXW WKH FRQVWUXFWLRQ LQ DFFRU
FKDQJHV WKHUHLQ H[FHSW XSRQ ZULWWHQ LQVWUXFWLRQV IURI

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\$ 'LVWULEXWH UHSURGXFWRQV RI DSSURYHG VKRS GUDZLQJV DO
VDPSONV ZKHU UHTXLUHG WR WKH MRE VLWH ILOH DQG HO
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\$ &RRUGLQDWLRQ RI 6XEPLWWDO 7LPHV 3UHSDUH DQG WUDQVP
RI SHUIRUPLQJ WKH UHODWHG ZRUN RU RWKHU DSSOLFDEOH DF
LQGLYLGXDO ZRUN RI RWKHU UHODWHG 6HFWLRQV VR WKDW
SURFHVVLRQJ WLPHV LQFOXGLQJ GLVDSSURYDO DQG UHVXEPLWW
VXEPLWWDOV WHVWLQJ SXUFKDVLRQJ IDEULFDWLRQ GHOLYHU
H[WHQVLRQ RI WLPV ZLOO EH DXWKRUL]HG EHFDXVH RI WKH &R
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% 5HODWHG 5HTXLUHPHQWV LQ RWKHU SDUWV RI WKH SURMHFW

,QVSHFWLRQ DQG WHVWLQJ UHTXLUHG E\ ODZV RUGLQDQFH
DSSURYDOV RI SXEOLF DXWKRULWLHV FRQGLWLRQV RI WKH F

& 5HVSQVLELOLW\ DQG SD\PHQW IRU WHVWLQJ VKDOO EH DV IR

&RQWUDFWRU ZLOO SD\ IRU DOO FRQFUHWH WHVWV DV VSHF
WDQN OXPS VXP ELG DPRXQW &RQFUHWH WHVWLQJ ODERUDV
VXEMHFW WR WKH DSSURYDO RI WKH 2ZQHU 6DPSOHV ZLOO I
(QJLQHHU

&RQWUDFWRU ZLOO SD\ IRU VRLOV FRPSDFWLRQ WHVW DQG
7HVWLQJ \$OORZDQFH %LG ,WHP H[FHSW ZKHUH WKH WHVW UH
VSHFLILHG UHTXLUHPHQWV &RQWUDFWRU ZLOO SD\ DOO FRV
GHGXFWHG IURP WKH WHVWLQJ ODERUDWRU\ LQYRLFHV 7HVW
(QJLQHHU &RQWUDFWRU VKDOO XVH *HR+\GUR VHH 6XEVXUI
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% 0HHW EDVLF UHTXLUHPHQWV RI \$670 (6WDQG DUGV RI 5HF
,QVSHFWLRQ DQG 7HVWLQJ \$JHQFLHV IRU FRQFUHWH DQG VWHH

& \$XWKRULJHG WR RSHUDWH LQ WKH 6WDWH LQ ZKLFK WKH 3URM

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\$ 3URPSWO\ VXEPLW ZULWWHQ UHSRUW RI HDFK WHVW DQG LQVS
2ZQHU &RQWUDFWRU DQG RQH FRS\ WR 5HFRUG 'RFXPHQWV IL

'DWH LVVXH

3URMHFW WLWOH DQG QXPEHU

7HVWLQJ ODERUDWRU\ QDPH DGGUHV DQG WHOHSKRQH QX

1DPH DQG VLJQDWXUH RI ODERUDWRU\ LQVSHFWRU

'DWH DQG WLPH RI VDPSOLQJ RU LQVSHFWLRQ

5HFRUG RI WHPSHUDWXUH DQG ZHDWKHU FRQGLWLRQV

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/RFDWLRQ RI VDP SOH RU WHVW LQ WKH SURMHFW
7\SH RI LQVSHFWLRQ RU WHVW
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,QWHUSUHWDLRQ RI WHVW DV UHTXLHG E\ WKH (QJLQHUU

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\$ /DERUDWRU\ LV QRW DXWKRULJHG WR

5HOHDVH UHYRNH DOWHU RU HQODUJH RQ UHTXLUHPHQWV
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\$ &RRSHUDWH ZLWK ODERUDWRU\ SHUVRQQHO SURYLGH DFFHVV

% 6HFXUH DQG GHOLYHU WR WKH ODERUDWRU\ DGHTXDWH TXDQ
PDWHULDOV SURSRVHG WR EH XVHG DQG ZKLFK UHTXLUH WHVW

& 3URYLGH WR WKH ODERUDWRU\ WKH SUHOLPLQDU\ GHVLJQ PL[
RWKHU PDWHULDOV PL[HV ZKLFK UHTXLUH FRQWURO E\ WKH WH

')XUQLVK FRSLHV RI SURGXFWV WHVW UHSRUWV DV UHTXLHG

()XUQLVK LQFLGHQWDO ODERU DQG IDFLOLWLHV

7R SURYLGH DFFHVV WR ZRUN WR EH WHVWHG

7R REWDLQ DQG KDQGOH VDP SOHV DW WKH SURMHFW VLWH
WHVWHG

7R IDFLOLDWH LQVSHFWLRQV DQG WHVWV

)RU VWRUDJH DQG FXULQJ RI WHVW VDP SOHV

) 1RWLI\ ODERUDWRU\ VXILFLHQWO\ LQ DGYPDQFH RI RSHUDWLRQ
SHUVRQQHO DQG VFKHGXOLQJ RI WHVWV

:KHQ WHVWV RU LQVSHFWLRQV FDQQRW EH SHUIRUPHG DIWH
ODERUDWRU\ SHUVRQQHO DQG WUDYHO H[SHQVHV LQFXUUHG

* (PSOR\ DQG SD\ IRU WKH VHUYLFHV RI D VHSDUDWH HTXDOO\ T
ODERUDWRU\ WR SHUIRUP DGGLWLRQDO LQVSHFWLRQV VDP SOL

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SECTION 01700
EXECUTION REQUIREMENTS

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\$ 7KLV 6HFWLRQ LQFOXGHV JHQHUDO SURFHGXUDO UHTXLUHPHQWV
LQFOXGLQJ EXW QRW OLPLWHG WR WKH IROORZLQJ
&RQVWUXFWLRQ OD\RXW
)LHOG HQJLQHULQJ DQG VXUYH\LQJ
*HQHUDO LQVWDOODWLRQ RI SURGXFWV
3URJUHVV FOHDQLQJ
6WDUWLQJ DQG DGMXVWLQJ
3URWHFWLRQ RI LQVWDOOHG FRQVWUXFWLRQ
&RUHFWLRQ RI WKH :RUN

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\$ &HUWLILFDWHV 6XEPLW FHUWLILFDWH VLJQH E\ &RQWUDFW
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\$ ([LVWLQJ &RQGLWLRQV 7KH H[LVWHQFH DQG ORFDWLRQ RI
FRQVWUXFWLRQ LQGLFDWHG DV H[LVWLQJ DUH QRW JXDUDQWHH
YHUL\ WKH H[LVWHQFH DQG ORFDWLRQ RI PHFKDQLFDO DQG HO
DIIHFWLQJ WKH :RUN
%HIRUH FRQVWUXFWLRQ YHUL\ WKH ORFDWLRQ DQG SRLQW
% ([LVWLQJ 8WLOLWLHV 7KH H[LVWHQFH DQG ORFDWLRQ RI XQG
LQGLFDWHG DV H[LVWLQJ DUH QRW JXDUDQWHHG %HIRUH EHJL
H[LVWHQFH DQG ORFDWLRQ RI XQGHUJURXQG XWLOLWLHV DQG R
%HIRUH FRQVWUXFWLRQ YHUL\ WKH ORFDWLRQ DQG LQYH
VDQLWDU\ VHZHU VWRUP VHZHU DQG ZDWHU VHUYLFH SL
VHUYLFHV
)XUQLVK ORFDWLRQ GDWD IRU ZRUN UHODWHG WR 3URMHFW
VHUYLQJ 3URMHFW VLWH
& \$FFHSWDQFH RI &RQGLWLRQV ([DPLQH VXEVWUDWHV DUHD
\$SSOLFDWRU SUHVHQW ZKHUH LQGLFDWHG IRU FRPSOLDQFH ZL
DQG RWKHU FRQGLWLRQV DIIHFWLQJ SHUIRUPDQFH 5HFRUG REV
9HUL\ FRPSDWLELOLW\ ZLWK DQG VXLWDELOLW\ RI VXEVW
ILQLVKHV RU SULPHUV

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([HFXWLRQ 5HTXLUHPHQW
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([DPLQH URXJKLQJ LQ IRU PHFKDQLFDO DQG HOHFWULFDO
FRQQHFWLRQV EHIRUH HTXLSPHQW DQG IL[WXUH LQVWDOODV
([DPLQH ZDOOV IORRUV DQG URRIV IRU VXLWDEOH FRQGLV
WR EH LQVWDOOHG

3URFHGG ZLWK LQVWDOODWLRQ RQO\ DIWHU XQVDWLVIDF
3URFHGGHQ LQJ ZLWK WKH :RUN LQGLFDWHV DFFHSWDQFH RI VX

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\$ ([LVWLQJ 8WLWLW\ ,QIRUPDWLRQ)XUQLVK LQIRUPDWLRQ WR C
RU UHORFDWH H[LVLWLQJ XWLWLW\ VWUXFWXUH\ XWLWLW\ SROH
ORFDWHG LQ RU DIIHFWHG E\ FRQVWUXFWLRQ &RRUGLQDWH ZL
%)LHOG 0HDXUHPHQWV 7DNH ILHOG PHDVXUHPHQWV DV UHTX
PHDVXUHPHQWV EHIRUH LQVWDOOLQJ HDFK SURGXFW :KHUH SR
RWKHU FRQVWUXFWLRQ YHUL\ GLPHQVLRQV RI RWKHU FRQV
IDEULFDWLRQ &RRUGLQDWH IDEULFDWLRQ VFKHGXOH ZLWK FR
:RUN
& 6SDFH 5HTXLUHPHQWV 9HUL\ VSDFH UHTXLUHPHQWV DQ
GLDJUDPPDWLFDQO\ RQ 'UDZLQJV
' 5HYLHZ RI &RQWUDFW 'RFXPHQWV DQG)LHOG &RQGLWLRQV ,P
FODULILFDWLRQ RI WKH &RQWUDFW 'RFXPHQWV VXEPLW D UHTX
GHWDLOHG GHVFULSWLRQ RI SUREOHP HQFRXQWHUHG WRJHWKH
&RQWUDFW 'RFXPHQWV

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\$ 9HULILFDWLRQ %HIRUH SURFHGHGLQJ WR OD\ RXW WKH :RU
'UDZLQJV LQ UHODWLRQ WR WKH SURSHU\ VXUYH\ DQG H[LVLV
GLVFRYHUHG QRWLI\ (QJLQHUU SURPSWO\
% *HQHUDO /D\ RXW WKH :RUN XVLQJ DFFHSWHG VXUYH\LQJ SUD
(VWDEOLVK EHQFKPDUNV DQG FRQWURO SRLQWV WR VHW
FRQVWUXFWLRQ DQG HOVHZKHUH DV QHHGHG WR ORFDWH HD
(VWDEOLVK GLPHQVLRQV ZLWKLQ WROHUDQFHV LQGLFDWH
UHTXLUHG GLPHQVLRQV
,QIRUP LQVWDOOHUV RI OLQHV DQG OHYHOV WR ZLFLK WKH
&KHFN WKH ORFDWLRQ OHYHO DQG SOXPE RI HYHU\ PDMRU
1RWLI\ (QJLQHUU ZKHQ GHYLDWLRQV IURP UHTXLUHG OL
WROHUDQFHV
&ORVH VLWH VXUYH\ ZLWK DQ HUURU RI FORVXUH HTXDO V
E\ DXWKRULWLHV KDYLQJ MXULVGLFWLRQ
& 6LWH ,PSURYHPHQWV /RFDWH DQG OD\ RXW VLWH LPSURYHP
DQG WRSVRLO SODFHPHQW XWLWLW\ VORSHV DQG LQYHUW HOH
' %XLOGGLQJ /LQH V DQG /HYHOV /RFDWH DQG OD\ RXW FRQWURO
IRXQGDWLRQV FROXPQ JULGV DQG IORRU OHYHOV LQFOXGL
HOHFWULFDO ZRUN 7UDQVIHU VXUYH\ PDUNLQJV DQG HOHYDWL
/HYHO IRXQGDWLRQV DQG SLHUV IURP WZR RU PRUH ORFDWLRQV

&LW\ RI)ORZHU\ %UDQFK ([HFXWLRQ 5HTXLUHPH
(OHYDWHG :DWHU 7DQ ,PSURYHPHQWV %LG 6HW

,QIUDWHF &RQVXOWDQWV ,QF

(5HFRUG /RJ 0DLQWDLQ D ORJ RI OD\RXW FRQWURO ZRUN 5H
OHYHOV ,QFOXGH EHJLQQLQJ DQG HQGLQJ GDWHV DQG WLPHV
DQG GXW\ RI HDFK VXUYH\ SDUW\ PHPEHU DQG W\SHV RI LQVWU
DYDLODEOH IRU UHIHUHQFH E\ (QJLQHUU

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\$ 5HIHUHQFH 3RLQWV /RFDWH H[LVWLQJ SHUPDQHFW EHQFKPDUN
SRLQWV EHIRUH EHJLQQLQJ WKH :RUN 3UHVHUYH DQG SURWH
SRLQWV GXULQJ FRQVWUXFWLRQ RSHUDWLRQV

% %HQFKPDUNV (VWDEOLVK DQG PDLQWDLQ D SHUPDQHFW EHO
GDWD HVWDEOLVKHG E\ VXUYH\ FRQWURO SRLQWV &RPSO\ ZLV
DQG VLJH RI EHQFKPDUN

5HFRUG EHQFKPDUN ORFDWLRQV ZLWK KRUL]RQWDO DQG
'RFXPHQWV

& &HUWLILHG 6XUYH\ 2Q FRPSOHWLRQ RI IRXQGDLRQ ZDOOV
UHTXLULQJ ILHOG HQJLQHULQJ VHUYLFHV SUHSDUH D FHUWLIL
DQJOHV DQG HOHYDWLRQV RI FRQVWUXFWLRQ DQG VLWHZRUN

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\$ *HQHUDO /RFDWH WKH :RUN DQG FRPSRQHFWV RI WKH :RUN
HOHYDWLRQ DV LQGLFDWHG

ODNH YHUWLFDO ZRUN SOXPE DQG PDNH KRUL]RQWDO ZRUN
:KHUH VSDFH LV OLPLWHG LQVWDOO FRPSRQHFWV WR PD[L
DQG HDVH RI UHPRYDO IRU UHSODFHPHQW

&RQFHDO SLSHV GXFWV DQG ZLULQJ LQ ILQLVKHG DUHDV

% &RPSO\ ZLWK PDQXIDFWXUHU V ZULWWHQ LQVWUXFWLRQV DQG
DSSOLFDWLRQV LQGLFDWHG

& ,QVWDOO SURGXFWV DW WKH WLPH DQG XQGHU FRQGLWLRQV
0DLQWDLQ FRQGLWLRQV UHTXLUH IRU SURGXFW SHUIRUPDQFH

' &RQGXFV FRQVWUXFWLRQ RSHUDWLRQV VR QR SDUW RI WKH :R
ORDGLQJ LQ H[FHVV RI WKDW H[SHFWHG GXULQJ QRUPDO FRQGLV

(7HPSODWHV 2EWDLQ DQG GLVWULEXWH WR WKH SDUWLHV LQ
IDFWRU\ SUHSDUH DQG ILHOG LQVWDOOHG &KHFN 6KRS 'UD
DGHTXDWH SURYLVLRLQV DUH PDGH IRU ORFDWLQJ DQG LQVWDO
UHTXLUPHQWV

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VHFXUHO\ LQ SODFH DFFXUDWHO\ ORFDWHG DQG DOLJQH ZLWK

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KHLJKWV GLUHFWHG E\ (QJLQHUU

\$OORZ IRU EXLOGGLQJ PRYHPHQW LQFOXGLQJ WKHUPDO H[S

&RRUGLQDWH LQVWDOODWLRQ RI DQFKRUDJHV)XUQLVK
GLUHFWLRQV IRU LQVWDOOLQJ DQFKRUDJHV LQFOXGLQJ VOI
LWHPV ZLWK LQWHJUDO DQFKRUV WKDW DUH WR EH HPEHG
VXFK LWHPV WR 3URMHFW VLWH LQ WLPH IRU LQVWDOODWLR

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DUUDQJH MRLQWV IRU WKH EHVW YLVXDO HIIHFV)LW H[SRVHG
+ +DJDUGRXV ODWHULDOV 8VH SURGXFWV FOHDQHUV DQG LQV
KDJDUGRXV

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\$ *HQHUDO &OHDQ 3URMHFW VLWH DQG ZRUN DUHDV ZHHNO\
SURJUHVV FOHDQLQJ IRU MRLQW XVH DUHDV ZKHUH PRUH WKD
UHTXLUPHQWV VWULFWO\ 'LVSRVH RI PDWHULDOV ODZIXOO\

% 6LWH 0DLQWDLQ 3URMHFW VLWH IUHH RI ZDVWH PDWHULDOV

& :RUN \$UHDV &OHDQ DUHDV ZKHUH ZRUN LV LQ SURJUHVV WR
SURSHU H[HFWRQ RI WKH :RUN

5HPRYH OLTXLG VSLOOV SURPSWO\

:KHUH GXVW ZRXOG LPSDLU SURSHU H[HFWRQ RI WKH :
HQWLUH ZRUN DUHD DV DSSURSULDWH

' ,QVWDOOHG :RUN .HHS LQVWDOOHG ZRUN FOHDQ &OHDQ L
LQVWUXFWLRQV RI PDQXIDFWXUHU RU IDEULFDWRU RI SURGXFW
VSHFLILFDOO\ UHFRPPHQGHG ,I VSHFLILF FOHDQLQJ PDWHULDO
PDWHULDOV WKDW DUH QRW KDJDUGRXV WR KHDOWK RU SURS
VXUIDFHV

(&RQFHDOHG 6SDFHV 5HPRYH GHEULV IURP FRQFHDOHG VSDFHV

) ([SRVHG 6XUIDFHV LQ)LQLVKHG \$UHDV &OHDQ H[SRVHG VXU
HQVXUH IUHHGRP IURP GDPDJH DQG GHWHULRUDWLRQ DW WLP

* :DVWH 'LVSRVDO %XU\LQJ RU EXUQLQJ ZDVWH PDWHULDOV R
ZDVWH PDWHULDOV GRZQ VHZHUV RU LQWR ZDWHUZD\ ZLOO QR

+ 'XULQJ KDQGOLQJ DQG LQVWDOODWLRQ FOHDQ DQG SURWHF
PDWHULDOV DOUHDG\ LQ SODFH \$SSO\ SURWHFWLYH FRYHULQJ
GDPDJH RU GHWHULRUDWLRQ DW 6XEVWDQWLDO &RPSOHWLRQ

, &OHDQ DQG SURYLGH PDLQWHQDQFH RQ FRPSOHWHG FRQVWUX
WKH UHPDLQGHU RI WKH FRQVWUXFWLRQ SHULRG \$GMXVW DQG
RSHUDELOLW\ ZLWKRXW GDPDJLQJ HIIHFV

- /LPLWLQJ ([SRVXUHV 6XSHU\LVH FRQVWUXFWLRQ RSHUDWL
FRQVWUXFWLRQ FRPSOHWHG RU LQ SURJUHVV LV VXEMHFW
RWKHUZLVH GHOHWHULRXV H[SRVXUH GXULQJ WKH FRQVWUXFWL

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\$ 6WDUW HTXLSPHQW DQG RSHUDWLQJ FRPSRQHQWV WR FR
PDOIXQFWLRQLQJ XQLWV UHSODFH ZLWK QHZ XQLWV DQG UHWH

% \$GMXVW RSHUDWLQJ FRPSRQHQWV IRU SURSHU RSHUDWLRQ ZL
RSHUDWLRQ

& 7HVW HDFK SLHFH RI HTXLSPHQW WR YHUL\ SURSHU RSHUDWL
5HSODFH GDPDJHG DQG PDOIXQFWLRQLQJ FRQWUROV DQG HTXLS

&LW\ RI)ORZHU\ %UDQFK
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LQVSHFW ILHOG DVVHPEOHG FRPSRQHQWV DQG HTXLSPHQW LQ
UHTXLUHPHQWV LQ 'LYLVLRQ

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\$ 3URYLGH ILQDO SURWHFWLRQ DQG PDLQWDLQ FRQGLWLRQV WK
GHHULRUDWLRQ DW WLP RI 6XEVDQWLDQ &RPSOHWRQ

% &RPSO\ ZLWK PDQXIDFWXUHU V ZULWWHQ LQVWUXFWLRQV IRU

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\$ 5HSDLU RU UHPRYH DQG UHSODFH GHIHFWLYH FRQVWUXFWLRQ
ILQLVKHV

5HSDLULQJ LQFOXGHV UHSODFLQJ GHIHFWLYH SDUWV UHIL
ZLWK PDWFKLQJ PDWHULDQV DQG SURSHUO\ DGMXVWLQJ RS

% 5HVWRUH SHUPDQHQW IDFLOLWLHV XVHG GXULQJ FRQVWUXFWLRQ

& 5HPRYH DQG UHSODFH GDPDJHG VXUIDFHV WKDW DUH H[SRVHG
ZLWKRXW YLVLEOH HYLGHQFH RI UHSDLU

' 5HSDLU FRPSRQHQWV WKDW GR QRW RSHUDWH SURSHUO\ 5HPRYH
WKDW FDQQRW EH UHSDLUH

(5HPRYH DQG UHSODFH FKLSSHG VFUDWFKHG DQG EURNHQ JOD

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SECTION 01770 CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 - 2. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, and final Completion construction photographs.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 8. Complete startup testing of systems.
 - 9. Submit test/adjust/balance records.
 - 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 11. Advise Owner of changeover in heat and other utilities.

12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 13. Complete final cleaning requirements, including touchup painting.
 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.3 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 2. Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit two copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.5 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 14 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Sweep concrete floors broom clean in unoccupied spaces.
 - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.

- k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - l. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Replace parts subject to unusual operating conditions.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - p. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - r. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01770

**SECTION 02010
SUBSURFACE CONDITIONS**

PART 1 - GENERAL

1.01 DESCRIPTION

A. The following soils investigation report has been prepared for this site:

1. Report Title: **Report of Subsurface Exploration and Geotechnical Engineering Evaluation Proposed 250,000 Gallon Water Storage Tank, 5624 Gainesville Street, Flowery Branch, Georgia, Geo-Hydro Project Number 181239.20**

Report Prepared By: **Geo – Hydro Engineers, Inc.**

Report Date: **January 3, 2019**

A copy of the report is enclosed with this section.

B. Use of Data

1. The report was obtained only for the Engineer's use in design and is available for bidders' information, but are not a warranty of subsurface conditions.
2. Bidders should visit the site and acquaint themselves with all existing conditions. Prior to bidding, bidders may make their own subsurface investigations to satisfy themselves as to site and subsurface conditions, but all such investigations shall be performed only under time schedules and arrangements approved in advance by the Engineer.

C. Quality Assurance

1. A Soils Engineer will be retained by the Owner to check performance of work in connection with excavating, trenching, filling, backfilling, and grading.
2. Readjust all work performed that does not meet technical or design requirements, but make no deviations from the Contract Documents without specific and written approval from the Owner's Representative.

END OF SECTION 02010

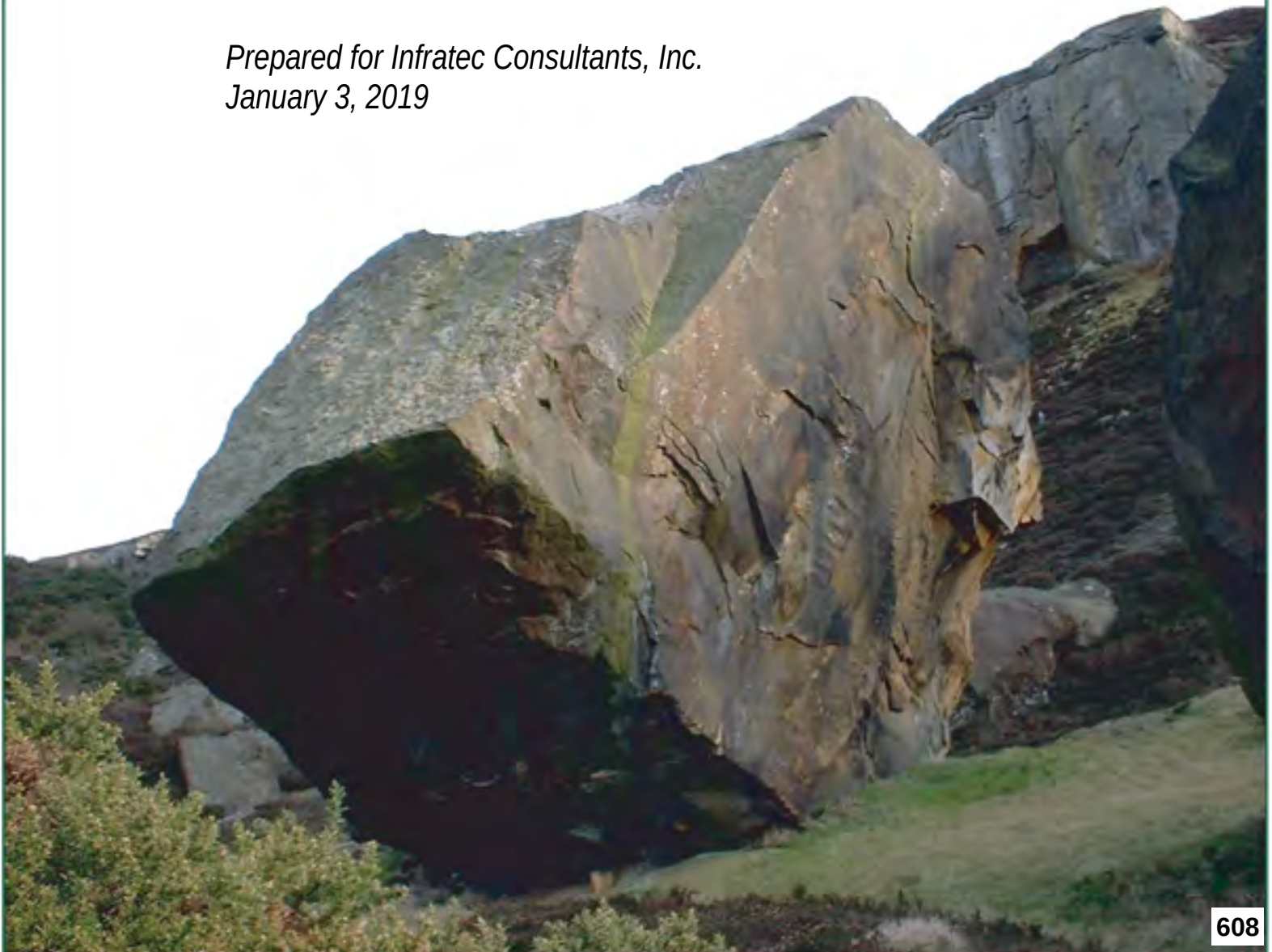
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Report of Subsurface Exploration
and Geotechnical Engineering Evaluation

New 250,000-Gallon Elevated Water Tank
5624 Gainesville Street
Flowery Branch, Georgia
Geo-Hydro Project Number 181239.20

*Prepared for Infratec Consultants, Inc.
January 3, 2019*



Mr. Keith Hendrix, P.E.
Infratec Consultants, Inc.
310 Saddle Hill Court
Roswell, Georgia 30075

January 3, 2019

Report of Subsurface Exploration
and Geotechnical Engineering Evaluation
New 250,000-Gallon Elevated Water Tank
5624 Gainesville Street
Flowery Branch, Georgia
Geo-Hydro Project Number 181239.20

Dear Mr. Hendrix:

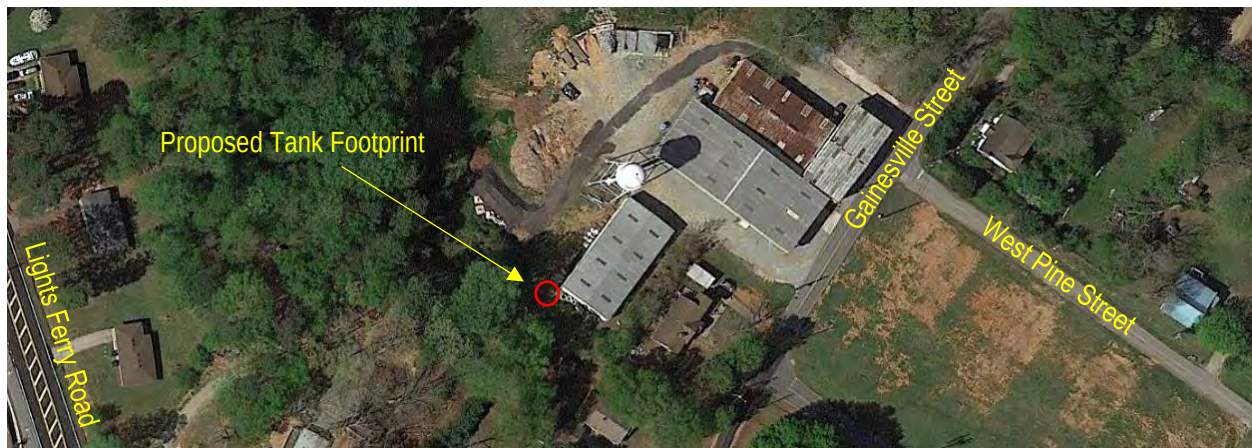
Geo-Hydro Engineers, Inc. has completed the authorized subsurface exploration for the above referenced project. The scope of services for this project was outlined in our proposal number 22618.2 dated November 20, 2018.

PROJECT INFORMATION

The project site is located at an existing municipal facility at 5624 Gainesville Street in Flowery Branch, Georgia. Figure 1 in the Appendix shows the approximate site location.

The planned water tank will have a capacity of 250,000 gallons and will be constructed adjoining the western corner of an existing building. The annotated aerial photograph below shows the planned tank location. We understand that the tank will have a central stand pipe and four isolated perimeter columns. You indicated that the foundations will bear about 6 feet below prevailing grade and the foundations have been preliminarily designed based on an allowable bearing pressure of 4,500 pounds per square foot. Based on a volume of 250,000 gallons and our experience with similar tanks, total column loads may approach 600 kips under gravity loading conditions.

At the time of our exploration, the area of the tank was grassed with some brush. The ground surface within the tank footprint slopes down away from Gainesville Street and contains about 5 feet of vertical relief across the tank footprint.



EXPLORATORY PROCEDURES

The subsurface exploration consisted of nine soil test borings performed at the approximate locations shown on Figure 2 in the Appendix. The test borings were located in the field by Geo-Hydro based on the location of the tank center as identified in the field by you. In general, the boring locations should be considered approximate.

Standard penetration testing, as provided for in ASTM D1586, was performed at select intervals in the soil test borings. Soil samples obtained from the drilling operation were examined and classified in general accordance with ASTM D2488 (Visual-Manual Procedure for Description of Soils). Soil classifications include the use of the Unified Soil Classification System described in ASTM D2487 (Classification of Soils for Engineering Purposes). The soil classifications also include our evaluation of the geologic origin of the soils. Evaluations of geologic origin are based on our experience and interpretation and may be subject to some degree of error.

Descriptions of the soils encountered in the test borings are provided in the test boring records included in the Appendix. Groundwater conditions, standard penetration resistances, and other pertinent information are also included.

REGIONAL GEOLOGY

The project site is located within the Brevard Fault Zone that separates the Northern Piedmont geologic province from the Southern Piedmont geologic province. In this report we will refer to the site as being within the Piedmont Region for the sake of simplicity. The Brevard Fault Zone is a narrow belt of deformed rocks, consisting primarily of mica schist, biotitic gneiss, and amphibolite in the project area. The area has undergone several episodes of deformation and metamorphism, the latest of which occurred some 200 to 300 million years ago. The Brevard Fault Zone is presently considered to be inactive.

Soils in this area have been formed by the in-place weathering of the underlying crystalline rock, which accounts for their classification as "residual" soils. Residual soils near the ground surface, which have experienced advanced weathering, frequently consist of red brown clayey silt (ML) or silty clay (CL). The thickness of this surficial clayey zone may range up to roughly 6 feet. For various reasons, such as erosion or local variation of mineralization, the upper clayey zone is not always present.

With increased depth, the soil becomes less weathered, coarser grained, and the structural character of the underlying parent rock becomes more evident. These residual soils are typically classified as sandy micaceous silt (ML) or silty micaceous sand (SM). With a further increase in depth, the soils eventually become quite hard and take on an increasing resemblance to the underlying parent rock. When these materials have a standard penetration resistance of 100 blows per foot or greater, they are referred to as partially weathered rock. The transition from soil to partially weathered rock is usually a gradual one, and may occur at a wide range of depths. Lenses or layers of partially weathered rock are not unusual in the soil profile.

Partially weathered rock represents the zone of transition between the soil and the unaltered metamorphic rocks from which the soils are derived. The subsurface profile is, in fact, a history of the weathering process which the crystalline rock has undergone. The degree of weathering is most advanced at the ground surface, where fine grained soil may be present. The weathering process is in its early stages immediately above the surface of relatively sound rock, where partially weathered rock may be found.

The thickness of the zone of partially weathered rock and the depth to the rock surface have both been found to vary considerably over relatively short distances. The depth to the rock surface may frequently range from the ground surface to 80 feet or more. The thickness of partially weathered rock, which overlies the rock surface, may vary from only a few inches to as much as 40 feet or more.

Stream valleys in the Piedmont Region may contain alluvial (water deposited) soils, depending on ground surface topography, stream flow characteristics, and other factors. By nature, alluvial soils can be highly variable depending upon the energy regime at the time of deposition. Coarse materials such as sand or gravel are deposited in higher energy environments, while fine grained materials such as silt and clay are deposited in low energy environments. Alluvial soils may also contain significant organic materials, and are frequently in a loose, saturated condition. In many cases, fine grained alluvial soils will be highly compressible and have relatively low shear strength.

Overall geologic conditions at the site have been modified by previous grading activities.

TEST BORING SUMMARY

Starting at the ground surface, all of the borings encountered approximately 3 to 10 inches of topsoil. Detailed measurements necessary for quantity estimation were not performed for this project. We recommend an arbitrary topsoil thickness of 12 inches for planning purposes.

Beneath the topsoil, all of the borings encountered residual soils typical of the Piedmont Region. The residual soils were classified as clayey silt, sandy silt, and silty sand with varying mica content. Standard penetration resistances in the residual soils ranged from 3 to 67 blows per foot.

All of the borings except B-1 and B-9 encountered partially weathered rock at depths ranging from about 12 to 27 feet. Partially weathered rock is locally defined as residual material having a standard penetration resistance greater than 100 blows per foot.

Boring B-9 encountered conditions causing auger refusal at a depth of 27 feet. Auger refusal is the condition that prevents advancement of the boring using conventional soil drilling techniques. The material causing auger refusal may consist of a boulder, a lens or layer of rock, the upper surface of relatively massive rock, or other hard material.

At the time of drilling, groundwater was not encountered in the borings. The borings were backfilled with soil cuttings upon completion. It should be noted that groundwater levels will fluctuate depending on seasonal variations of precipitation and other factors and may occur at different elevations in the future.

For more detailed descriptions of subsurface soil and groundwater conditions, please refer to the test boring record included in the Appendix.

EVALUATIONS AND RECOMMENDATIONS

The following recommendations are based on the information available on the proposed construction, the data obtained from the soil test borings, and our experience with soils and subsurface conditions similar to those encountered at this site. Because the test borings represent a small statistical sampling of subsurface conditions, it is possible that conditions may be encountered during construction that are substantially different from those indicated by the test borings. In these instances, adjustments to the design and construction may be necessary depending on actual conditions.

The following geotechnical characteristics of the site should be considered for planning and design:

- Neither partially weathered rock nor conditions causing auger refusal were encountered within 10 feet of the ground surface. Based on the results of the test borings, fill materials (if encountered during construction) and residual soils within anticipated excavation limits should be readily removable with conventional earth moving equipment.
- Based on a maximum column load of 600 kips and an allowable bearing pressure of 4,500 pounds per square foot, we estimate total settlement of the tank under gravity loading conditions to be about 1½ inches. We estimate differential settlement between any two foundations to be less than ½-inch. Due to the relatively heavy loads and high allowable bearing pressure, thorough inspection of foundation excavations will be critical to the performance of the project. All loose or soft soil encountered in foundation excavations should be removed and replaced with compacted graded aggregate base or lean concrete.
- Based on the results of the test borings and following the calculation procedure in the 2012 International Building Code (Chapter 20, ASCE 7-10), the *Site Class* for the site is *C*. The mapped and design spectral response accelerations are as follows: $S_s=0.211$, $S_1=0.095$, $S_{DS}=0.169$, $S_{D1}=0.108$.
- At the time of drilling, groundwater was not encountered in the test borings. Groundwater is not expected to be a concern for design or construction of the western water tank. Regardless of groundwater conditions, the contractor should be prepared to manage surface runoff during rain events.

The following sections provide recommendations regarding these issues and other geotechnical aspects of the project.

Existing Fill Materials

Existing fill materials were not encountered in the borings. However, areas of incidental fill may be present within the tank footprint, and soft, unstable surface materials related to previous agricultural activity may be encountered during construction. There are several important facts that should be considered regarding existing fill and cultivated materials and the limitations of subsurface exploration.

- The quality of existing fill materials can be highly variable, and test borings are often not able to detect all of the zones or layers of poor quality fill materials.
- Layers of poor quality fill materials that are less than about 2.5 to 5 feet thick may often remain undetected by soil test borings due to the discrete-interval sampling method used in this exploration.
- The interface between existing fill materials and the original ground surface may include a layer of organic material that was not properly stripped off during the original grading. Depending on its relationship to the bearing surface, an organic layer might adversely affect support of foundations and floor slabs. If such organic layers are encountered during construction, it may be necessary to “chase out” the organic layer by excavating the layer along with overlying soils.
- The construction budget should include funds for management of poor quality existing fill materials.
- Subsurface exploration is simply not capable of disclosing all conditions that may require remediation.

General Site Preparation

Vegetation, topsoil, existing foundations, demolition debris, and other deleterious materials should be completely removed from within the construction area. All existing utilities, if any, currently located within the proposed tank footprint must be excavated and removed. Within the tank foundation footprint, all excavations resulting from rerouting of underground utilities and removal of any other underground structures must be backfilled with GDOT-compliant graded aggregate base (GAB). Soil for incidental fill areas outside the foundation footprints should be placed and compacted in accordance with the Structural Fill section of this report. Site work should be performed only during dry weather conditions. Operation of heavy equipment on the site during wet conditions could result in excessive rutting and subgrade degradation.

During site preparation or foundation construction, burn pits or trash pits may be encountered. On sites located in or near developed areas, this is not an unusual occurrence. All too frequently such buried material occurs in isolated areas which are not detected by the soil test borings. Any buried debris or trash found during the construction operation should be thoroughly excavated and removed from the site.

Excavation Characteristics

Neither partially weathered rock nor conditions causing auger refusal were encountered within 10 feet of existing ground surface. Based on the results of the test borings, we expect fill materials and residual soils within anticipated excavation limits to be readily removable with conventional earth moving equipment.

For construction bidding and field verification purposes it is common to provide a verifiable definition of rock in the project specifications. The following are typical definitions of mass rock and trench rock:

- **Mass Rock:** Material which cannot be excavated with a single-tooth ripper drawn by a crawler tractor having a minimum draw bar pull rated at 56,000 pounds (Caterpillar D-8K or equivalent), and occupying an original volume of at least one cubic yard.
- **Trench Rock:** Material occupying an original volume of at least one-half cubic yard which cannot be excavated with a hydraulic excavator having a minimum flywheel power rating of 123 kW (165 hp); such as a Caterpillar 322C L, John Deere 230C LC, or a Komatsu PC220LC-7; equipped with a short tip radius bucket not wider than 42 inches.

The foregoing definitions are based on large equipment typically utilized for mass grading. Subsequent excavations for foundations and underground utilities are often performed with smaller equipment such as rubber-tired backhoe/loaders or even mini-excavators. Small equipment will encounter difficult excavation during mat foundation construction and utility installation, and contractors will often request additional payment for mobilizing larger equipment than that which was anticipated during preparation of their construction bid. The amount of additional compensation, if any, and the minimum equipment size necessary to qualify for any additional compensation should be defined before the start of construction.

Reuse of Excavated Materials (Ancillary Grading and Backfill)

Based on the results of the test borings, the residual soils at the project site appear suitable for reuse as structural fill material. Routine adjustment of moisture content will be necessary to allow proper placement and compaction.

It is important to establish as part of the construction contract whether soils having elevated moisture content and/or high plasticity will be considered suitable for reuse. We often find these issues to be a point of contention and a source of delays and change orders. From a technical standpoint, soils with moisture contents wet of optimum as determined by the standard Proctor test (ASTM D698) can be reused provided that the moisture is properly adjusted to within the workable range. Likewise, soils with liquid limits above 50 can also be reused provided they are blended with lower plasticity soils as needed to reduce their liquid limit. From a practical standpoint, wet soils can be very difficult to dry during periods of extended wet weather and low temperatures. Blending soils to reduce their plasticity also requires extra handling and effort. Such difficulties should be considered during planning and budgeting. A clear understanding by the general contractor and grading subcontractor regarding the reuse of excavated soils will be important to avoid delays and unexpected cost overruns.

Structural Fill

We provide the following recommendations for any soil fill and backfill required for the project.

Materials selected for use as structural fill should be free of organic debris, waste construction debris, and other deleterious materials. The material should not contain rocks having a diameter over 4 inches. It is our opinion that the following soils represented by their USCS group symbols will typically be suitable for use as structural fill and are usually found in abundance in the Piedmont: (SM), (ML), and (CL). The

following soil types are typically suitable but are not abundant in the Piedmont: (SW), (SP), (SC), (SP-SM), and (SP-SC). The following soil types are considered unsuitable: (MH), (CH), (OL), (OH), and (Pt).

Laboratory Proctor compaction tests and classification tests should be performed on representative samples obtained from the proposed borrow material to provide data necessary to determine acceptability and for quality control. The moisture content of suitable borrow soils should generally be no more than 3 percentage points below or above optimum at the time of compaction. Tighter moisture limits may be necessary with certain soils.

It is possible that highly micaceous soils could be utilized as structural fill material. The use of such materials will require very close attention to quality control of moisture content and density. Additionally, it is our experience that highly micaceous soils tend to rut under rubber-tired vehicle traffic. Continuous maintenance of areas subjected to construction traffic is typically required until construction is completed.

Suitable fill material should be placed in thin lifts. Lift thickness depends on the type of compaction equipment, but a maximum loose-lift thickness of 8 inches is generally recommended. The soil should be compacted by a self-propelled sheepsfoot roller. Within small excavations such as in utility trenches, around manholes, above foundations, or behind retaining walls, we recommend the use of “wacker packers” or “Rammax” compactors to achieve the specified compaction. Loose lift thicknesses of 4 to 6 inches are recommended in small area fills.

We recommend that structural fill be compacted to at least 95 percent of the standard Proctor maximum dry density (ASTM D698). The upper 12 inches of subgrade soils should be compacted to at least 98 percent of the standard Proctor maximum dry density. The upper 12 inches of pavement subgrades should be compacted in accordance with Georgia DOT requirements to at least 100 percent of the standard Proctor maximum dry density (ASTM D698). Additionally, the maximum dry density of structural fill should be no less than 90 pcf. Geo-Hydro should perform density tests during fill placement.

Earth Slopes

Temporary construction slopes should be designed in strict compliance with OSHA regulations. The exploratory borings indicate that most soils at the site are Type B as defined in 29 CFR 1926 Subpart P. This dictates that temporary construction slopes be no steeper than 1H:1V for excavation in soil extending to depths of 20 feet or less. Temporary construction slopes should be closely observed on a daily basis by the contractor’s “competent person” for signs of mass movement: tension cracks near the crest, bulging at the toe of the slope, etc. The responsibility for excavation safety and stability of construction slopes should lie solely with the contractor.

We recommend that extreme caution be observed in trench excavations. Several cases of loss of life due to trench collapses in Georgia point out the lack of attention given to excavation safety on some projects. We recommend that applicable local and federal regulations regarding temporary slopes and shoring and bracing of trench excavations be closely followed.

Formal analysis of slope stability was beyond the scope of work for this project. Based on our experience, permanent cut or fill slopes should be no steeper than 2H:1V to maintain long term stability and to provide ease of maintenance. The crest or toe of cut or fill slopes should be no closer than 10 feet to any foundation. The crest or toe should be no closer than 5 feet to the edge of any pavements. Erosion protection of slopes during construction and during establishment of vegetation should be considered an essential part of construction.

Foundation Design

Based on the results of the test borings and assuming a maximum column load not exceeding 600 kips, it is our opinion that the new tank can be supported using conventional shallow foundations. An allowable bearing pressure of 4,500 psf is appropriate for design. Increasing the allowable bearing pressure by one-third is allowed for certain transient load combinations as outlined in the 2012 International Building Code.

We estimate that total settlement of the fully-loaded tank will be no more than 1½ inches with less than ½-inch of differential settlement between any two foundation supports. If the tank supplier determines that the estimated total or differential settlement cannot be accommodated by the proposed structure, please contact us to discuss options for reducing the total or differential settlement expected for the tank.

Foundation bearing surface evaluations should be performed in all footing excavations prior to placement of reinforcing steel. These evaluations should be performed by Geo-Hydro to confirm that the design allowable soil bearing pressure is available. Foundation bearing surface evaluations should be performed using a combination of visual observation, hand augering, and portable dynamic cone penetrometer testing (ASTM STP-399).

Remedial measures should be based on actual field conditions. However, in most cases we expect the use of the stone replacement technique to be the primary remedial measure. Stone replacement involves the removal of soft or compressible material, and replacement with well-compacted graded aggregate base (GAB) meeting Georgia Department of Transportation specifications for gradation. Stone replacement is generally performed to depths ranging from a few inches to as much as 2 times the footing width, depending on the actual conditions. For budgetary purposes, we suggest considering that as much as 25 percent of the foundation excavations will require overexcavation of soil overburden and replacement with well-compacted GAB or lean concrete (compressive strength $\geq 1,500$ psi) extending to a depth of 3 feet below bearing elevation. The actual quantity of stone/concrete replacement will be different and may exceed the provided estimate.

Lateral Load Resistance

Resistance to lateral loads is developed by the passive resistance of the soil against the foundations and by the friction force or sliding resistance between the concrete mat and the bearing material.

For analysis of foundation base sliding resistance, we recommend a coefficient of friction of 0.60 between mass concrete and partially weathered rock. This is an ultimate value and an adequate factor of safety

should be used in design. The force which resists sliding is calculated by multiplying the normal force on the base by the coefficient of friction. Full development of the frictional force could require deflection of the base of roughly 0.1 to 0.3 inches.

An allowable lateral earth pressure of 130 psf per foot of depth can be used for passive earth pressure resistance. It should be noted that full development of passive pressure will require deflection toward the soil mass on the order of ½-inch.

Seismic Design

Based on the results of the test borings and following the calculation procedure in the 2012 International Building Code (Chapter 20, ASCE 7-10), the *Site Class* for the site is *C*. The mapped and design spectral response accelerations are as follows: $S_S=0.211$, $S_1=0.095$, $S_{DS}=0.169$, $S_{D1}=0.108$.

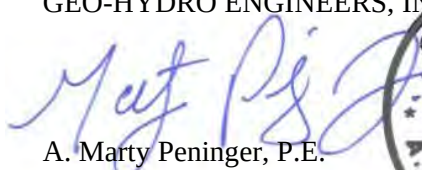
Based on the information obtained from the soil test borings, it is our opinion that the potential for liquefaction of the residual soils at the site due to earthquake activity is relatively low.

* * * * *

We appreciate the opportunity to work with you on this project and are prepared to provide any additional services you may require. If you have any questions concerning this report or any of our services, please call us.

Sincerely,

GEO-HYDRO ENGINEERS, INC.


A. Marty Peninger, P.E.
Senior Geotechnical Engineer
mpenigere@geohydro.com




Luis E. Babler, P.E.
Chief Engineer
luis@geohydro.com



AMP/LEB/181239.20 - New 250,000-Gallon Elevated Water Tank - 5624 Gainesville Street - Geotechnical Report

APPENDIX

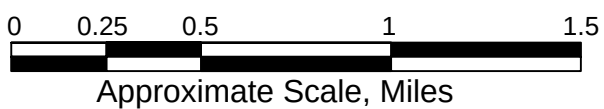
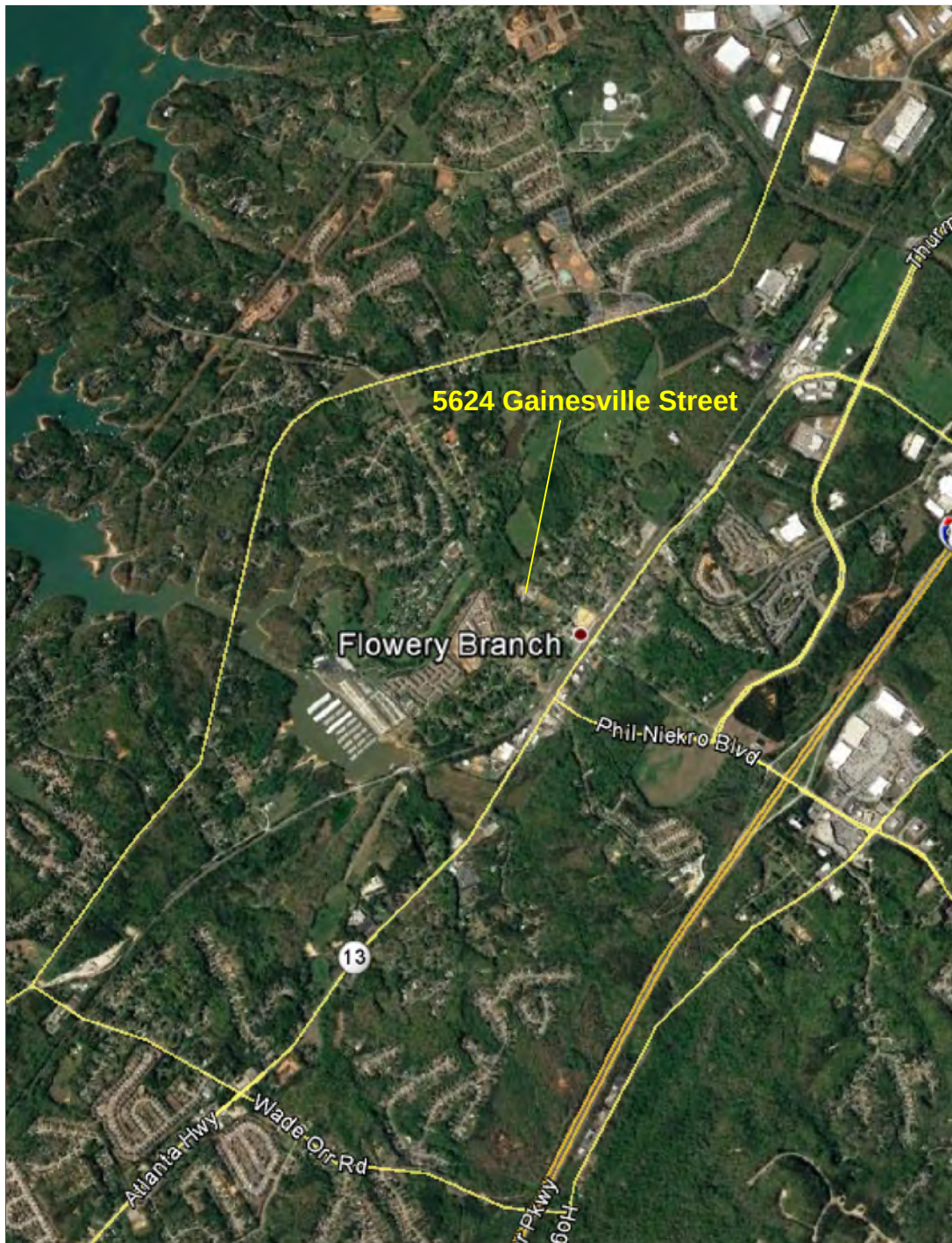


Figure 1: Site Location Plan

New 250,000-Gallon Elevated Water Tank
5624 Gainesville Street
Flowery Branch, Georgia
Geo-Hydro Project Number 181239.20



Approximate Scale: 1"=40'

LEGEND:  Soil Test Boring

Figure 2: Boring Location Plan

New 250,000-Gallon Elevated Water Tank
5624 Gainesville Street
Flowery Branch, Georgia
Geo-Hydro Project Number 181239.20

Symbols and Nomenclature

Symbols

	Thin-walled tube (TWT) sample recovered
	Thin-walled tube (TWT) sample not recovered
	Standard penetration resistance (ASTM D1586)
50/2"	Number of blows (50) to drive the split-spoon a number of inches (2)
65%	Percentage of rock core recovered
RQD	Rock quality designation - % of recovered core sample which is 4 or more inches long
GW	Groundwater
	Water level at least 24 hours after drilling
	Water level one hour or less after drilling
ALLUV	Alluvium
TOP	Topsoil
PM	Pavement Materials
CONC	Concrete
FILL	Fill Material
RES	Residual Soil
PWR	Partially Weathered Rock
SPT	Standard Penetration Testing

Penetration Resistance Results

	Number of Blows, N	Approximate Relative Density
Sands	0-4	very loose
	5-10	loose
	11-20	firm
	21-30	very firm
	31-50	dense
	Over 50	very dense
	Number of Blows, N	Approximate Consistency
Silts and Clays	0-1	very soft
	2-4	soft
	5-8	firm
	9-15	stiff
	16-30	very stiff
	31-50	hard
	Over 50	very hard

Drilling Procedures

Soil sampling and standard penetration testing performed in accordance with ASTM D 1586. The standard penetration resistance is the number of blows of a 140-pound hammer falling 30 inches to drive a 2-inch O.D., 1.4-inch I.D. split-spoon sampler one foot. Rock coring is performed in accordance with ASTM D 2113. Thin-walled tube sampling is performed in accordance with ASTM D 1587.

B-1

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20													
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18													
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:													
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP													
Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)													
						0	10	20	30	40	50	60	70	80	90	100			
				Topsoil (Approximately 5 inches)															
				Firm to very firm red-orange to tan micaceous silty fine sand (SM) (RESIDUUM)	15			●											
	5				26				●										
					15			●											
	10				26				●										
					20				●										
	15				18				●										
	20																		
				Very dense tan and black micaceous silty fine sand (SM)	51							●							
	25																		
	30			Boring Terminated at 30 feet	59										●				
	35																		
	40																		
Remarks:																			

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-2

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20													
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18													
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:													
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP													
Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)													
						0	10	20	30	40	50	60	70	80	90	100			
				Topsoil (Approximately 10 inches)															
				Soft orange-brown fine sandy silt (ML) (RESIDUUM)	4		●												
	5			Loose to firm orange-brown micaceous silty fine sand (SM)	8		●												
				Very firm light brown slightly micaceous silty fine sand (SM)	12			●											
	10			Loose to firm brown and black slightly micaceous silty fine sand (SM)	28				●										
	15			Very firm gray-brown silty fine sand (SM)	15			●											
	20			Very firm gray-brown silty fine sand (SM)	8		●												
	25			Very firm gray-brown silty fine sand (SM)	29				●										
	30			Partially weathered rock sampled as brown silty fine sand (SM)	50/6"														
				Boring Terminated at 30 feet															
	35																		
	40																		
Remarks:																			

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-3

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)
				Topsoil (Approximately 5 inches)		
				Very loose to loose orange-brown to black and brown silty fine sand (SM) (RESIDUUM)	3	
	5			Firm tan and brown micaceous silty fine sand (SM)	8	
				Loose to firm light brown to gray-brown silty fine sand (SM)	12	
	10				13	
	15				11	
	20				8	
	25			Very firm tan and gray micaceous silty fine sand (SM)	22	
				Partially weathered rock sampled as gray and brown micaceous silty fine sand (SM)		
	30			Boring Terminated at 30 feet	50/4"	
	35					
	40					

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-4

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank		Project No: 181239.20
Location: 5624 Gainesville Street - Flowery Branch, Georgia		Date: 12/17/18
Method: HSA- ASTM D1586	GWT at Drilling: Not Encountered	G.S. Elev:
Driller: Horizon (Auto-Hammer)	GWT at 24 hrs: N/A (Boring Backfilled)	Logged By: AMP

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)										
						0	10	20	30	40	50	60	70	80	90	100
				Topsoil (Approximately 8 inches)												
				Firm orange-brown clayey silt (ML) (RESIDUUM)	7		●									
	5			Loose orange to black and orange micaceous silty fine sand (SM)	9		●									
					9		●									
	10				8		●									
				Very firm tan and brown micaceous silty fine sand (SM)	24			●								
	15															
				Partially weathered rock sampled as gray and tan silty fine sand (SM)	50/4"										●	
	20															
					50/6"										●	
	25															
					50/6"										●	
	30			Boring Terminated at 30 feet	50/6"										●	
	35															
	40															

Remarks:

GEO HYDRO
ENGINEERS

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-6

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)
				Topsoil (Approximately 3 inches)		
				Firm orange clayey silt (ML) (RESIDUUM)		
	5			Loose to firm orange to tan micaceous silty fine sand (SM)	5	
					8	
					12	
	10				12	
				Dense tan and gray micaceous silty fine sand (SM)		
	15				34	
	20				39	
				Partially weathered rock sampled as gray and tan silty fine sand (SM)		
	25				50/6"	
				Dense dark brown silty fine sand (SM)		
	30			Boring Terminated at 30 feet	43	
	35					
	40					

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-7

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)
				Topsoil (Approximately 10 inches)		
				Firm orange clayey silt (ML) (RESIDUUM)		
	5			Loose orange-brown silty fine sand (SM)	6	
				Very firm tan and brown micaceous silty fine sand (SM)	9	
	10				24	
					26	
	15			Partially weathered rock sampled as tan and brown micaceous silty fine sand (SM)	50/6"	
				Very firm to dense gray-brown micaceous silty fine sand (SM)	24	
	20				25	
	25					
	30			Boring Terminated at 30 feet	40	

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-8

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)
				Topsoil (Approximately 7 inches)		
				Dense dark brown to orange micaceous silty fine sand (SM) (RESIDUUM)	34	
				Loose orange-brown silty fine sand (SM)	8	
	5			Dense tan and gray micaceous silty fine sand (SM)	41	
	10			Firm to very firm tan-brown to gray silty fine sand (SM)	11	
	15				20	
	20				28	
	25			Very dense gray silty fine sand (SM)	52	
	30			Partially weathered rock - No sample recovered at 30 feet	50/0"	
				Boring Terminated at 30 feet		
	35					
	40					

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-9

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)
				Topsoil (Approximately 3 inches)		
				Loose orange silty fine sand (SM) (RESIDUUM)	6	
	5			Very firm to dense tan and brown micaceous silty fine sand (SM)	39	
					24	
	10			Firm orange and tan to dark gray silty fine sand (SM)	17	
					16	
	15					
				Very dense gray silty fine sand (SM)	53	
	20					
	25				67	
				Auger Refusal at 27 feet		
	30					
	35					
	40					

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

**SECTION 02010
SUBSURFACE CONDITIONS**

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**SECTION 02210
EROSION AND SEDIMENT CONTROL**

PART 1 – GENERAL

1.1 SUMMARY

- A. It is the intent of this Contract that the Contractor perform his work in accordance with all applicable requirements of the Erosion and Sedimentation Act of 1975. The Manual for Erosion and Sediment Control in Georgia (Manual) further defines practices and requirements which may apply to this work. The Contractor is responsible for maintaining all sediment and erosion control measures on the project site during construction, and he is responsible for any damage caused by failure to implement these requirements. In general, erosion control measures shall be implemented in any area where the work of the contractor creates a condition where erosion and siltation would otherwise occur.
- B. The Contractor shall obtain proper permits from the local government before land disturbing activities begin. Silt fence or other erosion control devices shall be installed prior to any land disturbing activities.
- C. All erosion control devices shall be installed as shown on the Drawings or as directed by the ENGINEER.

1.2 SUBMITTALS

- A. CONTRACTOR shall submit to the ENGINEER, in accordance with Division 1, copies of all material required to establish compliance with this Section.

1.3 EROSION CONTROL MEASURES

- A. Specific measures to be implemented will be based upon site conditions. The needed measures will be determined by the Contractor and subject to approval of the Engineer prior to installation. It is contemplated that the following erosion control measures will be implemented on the project:
 - 1. Temporary Silt Fence
 - 2. Rip Rap Outlet Structures
 - 3. Grassing, Temporary and/or permanent
 - 4. Check Dams
 - 5. Erosion Control Matting
 - 6. Construction Exits

PART 2 - PRODUCTS

2.1 TEMPORARY DIVERSION AND PERIMETER DIKES

- A. Install diversion and perimeter dikes to intercept and prevent storm water runoff from entering disturbed areas from any other upgradient area regardless of whether area is on-site or off-site. Dikes must divert runoff to a drainage ditch, sediment basin or temporary or permanent channel. Dikes shall remain in place until the disturbed area is permanently stabilized. Construct dikes of earth fill free from all perishable matter and refuse, such as scraps of forms, wire, brush, rocks larger than six (6) inches or any foreign materials. Ashes, large stones, muck or other soft materials shall not be used. Compact all dikes using construction equipment. Dikes shall be stabilized immediately after construction with temporary seeding in accordance.

2.2 TEMPORARY SEDIMENT BARRIERS (SILT FENCE)

- A. Material Specifications: Filter fabric must meet the requirements set forth in Section 171 - Temporary Silt Fence, of the State of Georgia Department of Transportation (DOT) Standard Specifications, Construction of Roads and Bridges.
- B. Installation: In general, silt fencing shall be installed on the downgradient side of all areas to be disturbed as well as the perimeter of the project site (ENGINEER may authorize an exception for a perimeter which is upgradient from all land disturbing activity). All posts used to install silt fence shall comply with the specifications in the Manual for Erosion and Sediment Control in Georgia. Posts must be placed at least 18 inches in the ground and cannot be more than 6 feet apart from one another. Fence fabric must be inserted below ground and fence fabric must be fastened to posts according to the specifications in the Manual.
- C. Maintenance: In accordance with Paragraph 3.1 below, all silt fencing shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. All silt fencing materials, including fabric, posts and fasteners must be replaced six months after installation. At the earlier of (1) every 14 calendar days, or (2) when sediment reaches a depth of one half the installed fence height, all soil, silt, sediment and other material captured by the silt fence should be removed and returned upgradient on the construction site. The silt fence shall maintained such that it minimizes sediment transport as designed.

2.3 TEMPORARY SEDIMENT BARRIERS (HAY BALES)

- A. Install bales of hay where shown on the Drawings or as directed by ENGINEER.
- B. Material Specifications: Hay bales shall be wire or nylon bound and of a rectangular shape.
- C. Installation: Place bales in a row with ends tightly abutting the adjacent bales. Corner abutment is not acceptable. Embed bales in the soil a minimum of 4 inches below grade. Build up backfilled soil a minimum of 4 inches above grade on the uphill side of the barrier and conform to grade on the downhill side of the barrier. Anchor each bale in place with 1-by 2-inch wood stakes or No. 3 reinforcing bars. The first stakes shall be driven toward the previously laid bale to force the bales together. Stakes shall be 24 inches long and shall reach a minimum of 6 inches into the ground.
- D. Maintenance: In accordance with Paragraph 3.1 below, all hay bales shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7)

calendar days and within 24 hours of a rainfall event that has precipitation of ½ inch or greater. Hay bales must be replaced one month after installation. At the earlier of (1) every 14 calendar days or (2) when sediment reaches a depth of one-half the original bale height, all soil, silt, sediment and other material captured by the hay bales should be removed and returned upgradient on the construction site. The hay bales shall maintained such that they minimize sediment transport as designed.

2.4 CONSTRUCTION EXIT

- A. Locate construction exits as shown on the Drawings or as directed by the ENGINEER.
- B. Material Specifications: A geotextile underliner, conforming to Section 881.06 - Plastic Filter Fabric of the State of Georgia DOT Standard Specifications, Construction of Roads and Bridges, shall be used in all instances to stabilize and support the pad aggregate. Aggregate size will conform to the National Stone Association's (NSA) R-2 classification 1½- inch to 3½- inch stone).
- C. Installation: Construction exits should be located at all points where traffic will be leaving the construction site to a public or private right of way, street, alley, or parking area. All construction exits must be fully installed prior to the commencement of timber salvage, clearing, grubbing, grading or construction operations.
- D. Maintenance: In accordance with Paragraph 3.1 below, all construction exits shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of rainfall event that has precipitation of 0.5 inches or greater. At the earlier of (1) thirty calendar days since construction exit was installed or last maintained, or (2) geotextile underliner is visible or if construction exit does not conform to specifications established in this Paragraph 2.05, construction exit pad shall be top dressed with NSA's R-2 (1½- inch to 3½-inch stone) such that underliner is no longer visible and exit pad conforms to specifications.

2.5 CHECK DAM

- A. Install check dams as shown on the Drawings or as directed by the ENGINEER.
- B. Installation: Install check dams in all ditches, channels or swales draining disturbed areas of one (1) acre or greater and which are not installed with permanent, non-erodible lining or a vegetative cover as specified in Paragraph 2.09
 - 1. Check Dam For Ditches must serve as a sediment filtering device in addition to reducing the velocity of storm water runoff. Construct check dam with graded size 5- to 10-inch stone. Check dam shall not substantially impound water. Hand placement may be required to ensure complete coverage of entire width of ditch.
- C. Maintenance: In accordance with Paragraph 3.01 below, all check dams shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. Dress dams with appropriate-sized stone or additional hay bales as is necessary to maintain check dams in accordance with these specifications. At the earlier of (1) every 14 calendar days, or (2) when sediment reaches a depth of one-half the original check dam height, all soil, silt, sediment and other material captured by the dam should be removed and returned upgradient on the construction site.

2.6 INLET SEDIMENT TRAP

- A. Install inlet sediment traps where shown on the Drawings, as directed by ENGINEER, and around all storm drain drop inlets that receive runoff from disturbed areas.
- B. Material Specifications: Filter fabric used in constructing inlet sediment traps shall conform to the specifications established in Paragraph 2.03. For gravel drop inlet filters, stone shall conform to NSA's R-3 specification (3- to 6-inch stone). Baffle box inlet filters shall be constructed of 2-inch x 4-inch or 4-inch x 4-inch posts and 2-inch x 4-inch boards.
- C. Installation: Install in accordance with Chapter Six of the Manual for Erosion and Sediment Control in Georgia. Excavation may only be used in combination with a filtering device such as stone or silt fence. All sediment traps should provide a minimum of 1.5 feet of sediment storage. Sediment traps must be self draining.
- D. Maintenance: In accordance with Paragraph 3.01, inlet sediment traps shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. Clean and repair traps such that traps meet the specifications of this Paragraph 2.07 and minimize sediment transport. Remove sediment as necessary to provide adequate storage volume for subsequent rains.

2.7 TEMPORARY SEDIMENT BASINS AND INLETS

- A. Install temporary sediment basins and inlets where shown on the Drawings or as directed by ENGINEER.
- B. Material Specifications: Concrete used in constructing sediment basin shall be ready mixed, conforming to ASTM C 94, Alternate 2. Compressive field strength shall be not less than 2,500 psi at 28 days. Maximum size of aggregate shall be 1-1/2 inch. Slump shall be between 2 and 4 inches. Field strength shall be assumed as equal to 85 percent of the strength of laboratory-cured cylinders. Forms used in constructing sediment basin shall have exposed surfaces of plywood; others shall be steel, matched boards, plywood, or other acceptable material. Form all vertical surfaces. Provide fillets on reentrant angles. Trench walls, large rock, or earth will not be acceptable form material. Reinforcing steel shall conform to ASTM A 615, Grade 40, deformed bars. At the option of the CONTRACTOR, approved precast units may be substituted for cast-in place units. Precast units shall conform to ASTM C 478. Submit details of proposed units to the ENGINEER for review. Concrete risers for extensions shall be a maximum of 6 inches high and of the same quality as the sections. Risers shall be reviewed by ENGINEER before installation. Mortar shall be standard premixed mortar conforming to ASTM C 387, Type S, or proportion 1 part portland cement to 2 parts clean, well-graded sand which will pass a 1/8-inch screen. Admixtures may be used not exceeding the following percentages of weight of cement: Hydrated lime, 10 percent; diatomaceous earth or other inert materials, 5 percent. Consistency of mortar shall be such that it will readily adhere to the concrete. Cast iron frames and gratings for catch basins and storm drain inlets shall be designed for AASHTO H-20 truck loadings and shall be bike-proof veticuline grates. Bearing surfaces shall be clean and shall provide uniform contact. Castings shall be tough, close-grained gray iron, sound, smooth, clean, free from blisters, blowholes, shrinkage, cold shuts, and all defects, and shall conform to ASTM A 48, Class 30.
- C. Construction: Excavation of basin and backfill of any adjoining pipe trenches shall be as

specified in Section 02300, Earthwork. Construct forms to the dimensions and elevations required. Forms shall be tight and well braced. Chamfer corners of forms. Prior to placing the concrete, remove all water and debris from the forms. Moisten forms just prior to placing the concrete. Handle concrete from the transporting vehicle to the forms in a continuous manner as rapidly as practical without segregation or loss of ingredients. Immediately after placing, compact concrete with a mechanical vibrator. Limit the duration of vibration to the time necessary to produce satisfactory consolidation without causing segregation. Screed the top surface of exposed slabs and walls. When the initial water has been absorbed, float the surfaces with a wood float and lightly trowel with a steel trowel to a smooth finish free from marks or irregularities. Finish exposed edges with a steel edging tool. Remove forms and patch any defects in the concrete with mortar mixed in the same proportions as the original concrete mix. Cure concrete by preventing the loss of moisture for a period of 7 days. Accomplish with a membrane-forming curing compound. Apply the curing compound immediately after removal of forms or finishing of the slabs. Protect concrete from damage during the 7-day curing period. If precast unit is used and material in bottom of trench is unsuitable for supporting unit, excavate and backfill to required grade with 3-inch minus, clean, pit-run material. Set units to grade at locations shown. Set frames and grates at elevations indicated on Drawings. Frames may be cast in, or shall be set in mortar.

- D. Maintenance: In accordance with Paragraph 3.01, temporary sediment basins and inlets shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. Clean and repair basins and inlets such that they meet the specifications of this Paragraph 2.08 and minimize sediment transport. Remove sediment as necessary to provide adequate storage volume for subsequent rains.

2.8 TEMPORARY SOIL EROSION STABILIZATION (VEGETATIVE)

- A. This section covers work necessary for temporary stabilization of soil to prevent erosion following clearing, grubbing, grading or other construction activities in the areas identified in the Contract Documents or as directed by the ENGINEER, except wetlands. The right is reserved to modify the use, location, and quantities of the areas requiring stabilization as the ENGINEER considers being in the best interest of the Owner. During construction, the ENGINEER will designate the extent of stabilization used in each location throughout the project.
- B. General Criteria: The stabilization measures specified herein shall be initiated on all disturbed areas including dikes and ditches within 24 hours of completion to minimize erosion and soil transport, provided however, that stabilization measures specified herein do not have to be initiated in the event that construction activities will resume on that portion of the site within fourteen (14) days from the date activities temporarily ceased. For cleared areas which may not receive permanent vegetative or other stabilization measure for six (6) months or less AND a suitable growing season is not available for seedings to establish an erosion retardant cover, mulch may be applied according to the specifications below.
- C. Material Specifications: Seed shall be clean, delivered in original unopened packages and bearing an analysis of the contents. Guaranteed 95 percent pure with minimum germination rate of 85 percent. Summer seed mix shall be 40 percent by weight Fawn Fescue, 30 percent by weight Perennial Ryegrass, 15 percent by weight Orchard Grass, and 15 percent by weight Dutch White Clover. Winter seed mix shall be 35 percent by weight Fawn Fescue, 30 percent by weight Perennial Ryegrass, 30 percent by weight Hairy Vetch, and 5 percent by weight Dutch White Clover. Fertilizer shall be used if directed by ENGINEER. Fertilizer shall be commercial, chemical type, uniform in composition, free-flowing, conforming to state and federal laws, and suitable for application with equipment designed for that purpose.

Fertilizer shall have a minimum percentage of plant food by weight for the following: Summer mix shall be 10 percent nitrogen, 10 percent phosphoric acid, and 6 percent potash; Winter mix shall be 16 percent nitrogen, 8 percent phosphoric acid, and zero percent potash. Straw mulch shall be threshed straw of oats, wheat, or rye, free from obnoxious weed seeds or obnoxious weeds, or shall be clean hay. Average stalk length shall be 6 inches. Wood waste, asphaltic emulsion, or erosion control matting such as jute, excelsior, are also appropriate for temporary stabilization. Asphaltic emulsion shall be CSS-1 as manufactured by Chevron Asphalt Company.

1. CONTRACTOR shall submit to ENGINEER certificates of inspection of seed by state or federal authorities and copies of delivery invoices or other documentation of quantities of mulch and fertilizer.
 2. The CONTRACTOR shall give at least 3 days notice to the ENGINEER of the time and place of starting the following operations:
 - a. Delivery of materials
 - b. Planting of grass
 3. The CONTRACTOR shall keep the ENGINEER advised of his schedule of operations.
- D. Application: Planting and seeding shall be performed in accordance with the following schedule:
1. Summer Seeding: No earlier than April 1 and no later than October 15.
 2. Winter Seeding: October 16 until weather conditions prohibit further construction operations as determined by the ENGINEER.
 3. Soil Preparation: Prior to seeding operations, and after surface has been shaped, graded, and compacted, scarify surface to a minimum depth of 1 inch.
 4. Seeding: All seedbeds shall be a minimum depth of 1 inch. Seedbeds shall be reviewed by the ENGINEER prior to seeding. After soil has been scarified, apply required seed mix, as specified in this section, uniformly with a cyclone seeder, drill, cultipacker seeder, or hydroseeder. When hydroseeding is the selected method of seeding, prepare and apply slurry at the rate and proportion specified below:
 - a. Seed Mix 100 lbs/acre
 - b. Fertilizer 650 lbs/acre
 - c. Water as necessary
 5. The required fertilizer mix shall be uniformly applied at the time of seeding.
 - a. Upon completion of the seeding operations, apply straw mulch to a reasonably uniform thickness of 1-1/2 inches to 2-1/2 inches in depth. Mulch shall be loose enough to permit penetration of sunlight and air circulation, but dense enough to shade ground, reduce evaporation rate, and prevent or materially reduce erosion of underlying soil. Retain straw in place by applying asphaltic emulsion at a rate of 100 gallons per acre or mechanically tack the mulch into the soil to approximately 3 inches. Equipment used for tacking shall be specially designed for this use.
- E. Application of Mulch Only: In accordance with Paragraph 2.8 A for areas to receive mulch only, apply at the following rates, to the following depths and according to the following specifications:
1. Dry Straw or Hay: Spread at a rate of two and one-half (2 1/2) tons per acre. Apply to a depth of six (6) to ten (10) inches. Apply uniformly and anchor as necessary.

2. Wood Waste: Spread at a rate of six (6) to nine (9) tons per acre. Apply to a depth of two to three inches. Apply wood waste only on slopes that are 3:1 or flatter. Anchoring is not necessary.
 3. Jute Matting or Excelsior Netting: Apply in accordance with manufacturer's recommendations.
 4. Asphaltic Emulsion: Apply at a rate of 1200 gallons per acre. Apply uniformly.
- F. Maintenance: In accordance with Paragraph 3.1, stabilized areas shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. Apply additional stabilization materials as needed.

PART 3 – EXECUTION

3.1 INSPECTIONS AND MAINTENANCE

- A. CONTRACTOR shall designate a Qualified Person to perform inspections. The following areas are to be inspected and maintenance performed, if needed.
1. Disturbed areas of the construction site that have not undergone final stabilization.
 2. Erosion and sediment control structures.
 3. All locations where vehicles enter or exit the site.
 4. Material storage and construction laydown areas that are exposed to precipitation and have not been finally stabilized.
- B. In areas that have been finally stabilized, inspections and, if necessary, maintenance by CONTRACTOR will occur at least once per month for duration of contract or project, whichever is longer.
- C. During inspections, the following will be observed and appropriate maintenance procedures taken:
1. The conformance to specifications and current condition of all erosion and sediment control structures.
 2. The effectiveness and operational success of all erosion and sediment control measures.
 3. The presence of sediments or other pollutants in stormwater runoff at all runoff discharge points.
 4. If reasonably accessible, the presence of sediments or other pollutants in receiving waters.
 5. Evidence of off-site sediment tracking at all locations where vehicles enter or exit the site.
- D. An inspection checklist is included at the end of this section. This checklist must be completed during each inspection, dated and signed by the Qualified Person conducting the inspection. Completed inspection checklists shall be kept on-site with the Contract Documents and submitted to the OWNER on a monthly basis. The CONTRACTOR will repair deficiencies within 24 hours of inspection.

3.2 REMOVAL OF TEMPORARY SEDIMENT CONTROL STRUCTURES

- A. At such time that temporary erosion and control structures are no longer required under this Section 02210, the CONTRACTOR shall notify the ENGINEER of its intent and schedule for the removal of the temporary structures, and obtain the ENGINEER's approval in writing prior to removal. Once CONTRACTOR has received such written approval from ENGINEER, CONTRACTOR shall remove as approved the temporary structures and all sediments accumulated at the removed structure shall be returned upgradient. In areas where temporary control structures are removed, the site shall be left in a condition that will restore original drainage.

END OF SECTION 02210

**SECTION 02230
SITE CLEARING**

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Protecting existing trees, shrubs, groundcovers, plants and grass to remain.
2. Removing existing trees, shrubs, groundcovers, plants and grass.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Temporary erosion and sedimentation control measures.

1.2 RELATED WORK

- A. Subsurface Conditions is included in Section 02010
- B. Earthwork is included in Section 02300
- C. Erosion Control is included in Section 02210
- D. Grassing and Mulching is included in Section 02486

1.3 DEFINITIONS

- A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other non-soil materials.
- B. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.4 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become CONTRACTOR's property and shall be removed from Project site.

1.5 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

- B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 2 Section "Earthwork."
 - 1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.
 - 2. Any property damage beyond the clearing limits caused by the Contractor is the responsibility of the Contractor, and he shall bare any and all expenses for restoration.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to the sediment and erosion control Drawings.
- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- D. The terms "Clearing" and "Grubbing" used in these specifications will be as defined in the Georgia Department of Transportation Specifications, 1993 Edition, Section 201.02, Paragraphs B and C.

3.3 TREE PROTECTION

- A. Erect and maintain temporary fencing around tree protection zones before starting site clearing. Remove fence when construction is complete.
 - 1. Do not store construction materials, debris, or excavated material within fenced area.

2. Do not permit vehicles, equipment, or foot traffic within fenced area.
3. Maintain fenced area free of weeds and trash.
- B. Do not excavate within tree protection zones, unless otherwise indicated.
- C. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.
 1. Cover exposed roots with burlap and water regularly.
 2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 3. Coat cut faces of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other approved coating formulated for use on damaged plant tissues.
 4. Backfill with soil as soon as possible.
- D. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Architect.
 1. Employ an arborist, licensed in jurisdiction where Project is located, to submit details of proposed repairs and to repair damage to trees and shrubs.
 2. Replace trees that cannot be repaired and restored to full-growth status, as determined by the ENGINEER.

3.4 UTILITIES

- A. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.
 1. Arrange with utility companies to shut off indicated utilities.
- B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 1. Notify ENGINEER not less than two days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without ENGINEER's written permission.
- C. Excavate for and remove underground utilities indicated to be removed.

3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.
 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 2. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction.
 3. Grind stumps and remove roots, obstructions, and debris extending to a depth of 18 inches below exposed subgrade.
 4. Use only hand methods for grubbing within tree protection zone.
 5. Chip removed tree branches and stockpile in areas approved by the ENGINEER, to be used as mulch for erosion control.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
 1. Remove subsoil and nonsoil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 1. Limit height of topsoil stockpiles to 72 inches.
 2. Do not stockpile topsoil within tree protection zones.
 3. Dispose of excess topsoil as specified for waste material disposal.

3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
 2. Paint cut ends of steel reinforcement in concrete to remain to prevent corrosion.

3.8 DISPOSAL

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
 1. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 02230

SECTION 02271

RIP RAP

PART 1- GENERAL

1.1 SUMMARY

- A. The work of this section consists of furnishing and hand placing stone rip rap for embankment protection. All rip rap shall be installed over a geotextile fabric

1.2 SUBMITTALS

- B. As specified in Division 1, Manufacturer's installation instructions for geotextile fabric.

PART 2 - PRODUCTS

2.1 GEOTEXTILE FABRIC

- A. Fabric shall be permeable synthetic material, having the following properties:
 - 1. Grab tensile strength, shall be 200 pounds minimum, tested in accordance with ASTM D1682.
 - 2. Grab elongation shall be 15-50% as tested in accordance with ASTM D1682.
 - 3. Burst strength shall be 500 lbs. as tested in accordance with ASTM D751.

2.2 RIP RAP

- A. Rip rap shall be well-graded angular quarry stones, sound and hard, resistant to water and weathering. Stones shall be Georgia D.O.T. Standard Specification (latest edition), Section 805 Type 3 or Type 1 as called for on the plans. Where not specifically called out use Type 3.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Excavate foundation as shown and as specified in Section 603.03 of the Georgia D.O.T. Standard Specifications, (latest edition). Obtain Engineer's approval of foundation before placing geotextile fabric or rip rap. Repair or replace fabric that has been damaged due to stone placement. Re-lay fabric that becomes displaced during stone placement.

3.2 GEOTEXTILE FABRIC

- A. Place on smooth, uniform slope, loosely enough to conform to minor surface irregularities. Follow manufacturer's recommendations for making laps and for fastening and securing.

3.3 HANDLAID RIPRAP

- A. Place largest rocks at bottom of slope. Arrange by hand to interlock and form a substantial bond. Rip rap shall be reasonably uniform and free from bulges, humps, or cavities. Use spalls to fill voids.

END OF SECTION 02271

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**SECTION 02300
EARTHWORK**

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Preparing subgrades for slabs-on-grade, walks, pavements and lawns.
 - 2. Excavating and backfilling for buildings and structures.
 - 3. Drainage course for slabs-on-grade.
 - 4. Subbase course for concrete slabs.
 - 5. Subbase and base course for asphalt paving.
 - 6. Excavating and backfilling for utility trenches.

1.2 DEFINITIONS

- A. Backfill: Soil material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Course placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water. Unless specifically called out for otherwise, provide 12" of stone under all slabs.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions changes in the Work.
 - 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
 - 3. Rock Excavation: Excavation of rock substratum shall be defined as material occupying an original volume of at least one-half cubic yard which cannot be excavated with a hydraulic excavator having a minimum flywheel power rating of 165 HP; such as a Caterpillar 322C L, John Deere 230C LC, or a Komatsu PC220LC-7; equipped with a short tip radius bucket not wider than 42 inches.
- G. Fill: Soil materials used to raise existing grades.

- H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- I. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- K. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.3 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated.
- B. The accuracy of information contained in the plans and specifications as to underground structures foundation conditions, character of soil, position and quantity of ground and subsoil water, is not guaranteed by Owner.
- C. Where blasting with explosives may be required for rock excavation, Contractor is responsible for acquiring any required permits and providing seismic monitoring. No additional cost to the owner shall result from this responsibility.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM; AASHTO M 145 Soil Classification Groups A-1, A-2-4, A-2-5, and A-3; or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487; A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 2 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 2 Section "Site Clearing," during earthwork operations.

3.2 EXCAVATION

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 3 inches. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.5 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
 - 1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - 1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material, 4 inches deeper elsewhere, to allow for bedding course.

3.6 SHEETING AND BRACING

- A. Furnish, install, and maintain such sheeting and bracing as required by Federal, State and Local safety requirements to support the sides of excavations, to prevent any movement which could diminish the width of the excavation necessary for proper construction, and to protect adjacent structures from undermining or other damage. Care shall be taken prevent voids outside of the sheeting, but if voids are formed, they shall be filled immediately and rammed. Where soil cannot be properly compacted to fill a void, lean concrete shall be used as backfill.
- B. Construct the sheeting outside the neat line of the foundation, unless otherwise indicated, to the extent deemed desirable for the method of operation.

3.7 SUBGRADE INSPECTION

- A. Proof-roll subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

3.8 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Engineer.
 - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Engineer.

3.9 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.10 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Backfill trenches excavated under footings and slabs with concrete to elevation of bottom of footings or slabs. Concrete is specified in Division 3 Section "Cast-in-Place Concrete."
- D. Place and compact initial backfill, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.
 - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- E. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- F. Install warning tape directly above PVC utilities, 12 inches below finished grade.

3.11 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill as shown on the Drawings or specified herein.
 - 4. Under building slabs, use engineered fill as shown on the Drawings or specified herein.
 - 5. Under footings and foundations, use engineered fill as shown on the Drawings or specified herein.

3.12 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.13 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557.
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 98 percent.
 - 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 - 3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90 percent.
 - 4. For utility trenches, compact each layer of initial and final backfill soil material at 93 percent unless it is under a roadway or driveway and then use 95 percent.
 - 5. For backfill around structures, compact each layer of backfill at 95 percent.

3.14 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Lawn or Unpaved Areas: Plus or minus 0.1 feet.
 - 2. Walks: Plus or minus 0.1 feet.
 - 3. Pavements: Plus or minus .04 feet.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 0.04 feet when tested with a 10-foot straightedge.

3.15 SUBBASE AND BASE COURSES

- A. Place subbase and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase and base course under pavements and walks as follows:
 - 1. Shape subbase and base course to required crown elevations and cross-slope grades.
 - 2. Compact subbase and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 98 percent of maximum dry unit weight according to ASTM D 1557.

3.16 DRAINAGE COURSE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
 - 1. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.

2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.17 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Engineer.
- D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.18 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 02300

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SECTION 02400 CONSTRUCTION DEWATERING

PART 1 - GENERAL

- 1.1 The Contractor shall be responsible for controlling groundwater in a manner that will preserve the strength of the foundation soils, will not cause instability of the excavation slopes, and will not result in damage to existing structures. Prevent surface water runoff from entering or accumulating in excavations.
- 1.2 Where permeable soils are encountered at subgrade elevations the Contractor shall maintain the groundwater level a minimum of 3' below the prevailing excavation level.
- 1.3 The Contractor shall submit for the Engineer's review a construction dewatering plan. The plan shall indicate the method of dewatering to be used, the location of any wells or pumps, and where pumped groundwater is to be discharged. No excavation will be allowed without an approved dewatering plan. Submittal will be for information only and the dewatering plan shall remain the responsibility of the Contractor.
- 1.4 Excavation, sheeting, shoring, bracing, etc. that may be required for dewatering purposes during construction of the project shall be the responsibility of the Contractor and shall not result in additional cost to the Owner.

PART 2 - PRODUCT

- 2.1 Equipment used for dewatering is optional to the Contractor.
- 2.2 Mechanical equipment used shall be in good working order and suitable for use under the anticipated conditions.
- 2.3 Wells and well points if used shall be installed with suitable screens and filters so that continuous pumping of fines does not occur.

PART 3 – EXECUTION

3.1 GENERAL

- A. Control surface water and groundwater such that excavation to final grade is made in-the-dry, and bearing soils are maintained undisturbed. Prevent softening, or instability of the subgrade due to water seepage.
- B. Provide protection against floatation for all work.
- C. The impact of anticipated subsurface soil/water conditions will be considered when selecting methods of excavation and temporary dewatering systems. Where groundwater levels are above the proposed bottoms of excavations, a pumped dewatering system is expected for pre-drainage of the soils prior to excavation to final grade and for maintenance of the lowered groundwater level until construction has been completed to such an extent that the foundation, structure, pipe, conduit, or backfill will not be floated or otherwise damaged.

3.2 SURFACE WATER

- A. Control surface water runoff to prevent flow into excavations. Provide temporary measures such

as dikes, ditches and sumps.

3.3 EXCAVATION DEWATERING

- A. The Contractor shall maintain and operate his dewatering equipment until the permanent structure is in place.
- B. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the subgrade at the bottom of the excavation. If the subgrade becomes disturbed or becomes un-dewatered for any reason the unsuitable subgrade material shall be removed and replaced with concrete or compacted stone to restore the bearing capacity of the subgrade to its original undisturbed condition. No compensation for removal of unstable material below the subgrade shall be allowed if in the opinion of the Engineer, modified dewatering techniques would solve the problem and result in a suitable subgrade.
- C. Dewatering discharge shall be clean with an acceptable NTU (neophalometric turbidity unit) as allowable by current storm water monitoring guidelines before the water is discharged back into any stream or surface water. Sampling of the discharged water shall be conducted by approved storm water monitoring company or person for this determination.

END OF SECTION 02400

SECTION 02444 - CHAIN LINK FENCE AND GATES

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Provide and install non-climbable chain link fence and gates of the types and sizes and at the locations shown on the drawings.

1.2 SUBMITTALS

- A. Submit to the Engineer, in accordance with the Section 01340, copies of all materials required to establish compliance with this Section.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All components shall be galvanically compatible. All fence posts, braces, fabric, gates, and accessories shall be vinyl coated, color black.

2.2 CHAIN LINK FABRIC

- A. Conform to FS RR-F-00191/1 Type A, Class I, two inch mesh, one piece fabric, full height. Wire diameter shall be 0.148 inch.

2.3 VINYL COATING

- A. PolyVinyl Chloride coated steel chain link fence fabric shall conform to ASTM F 668.
- B. Vinyl coating color shall be stabilized, and shall have a light fastness to withstand a minimum Weather-O-Meter exposure of at least 1500 hours without any deterioration when tested in accordance with ASTM D 1499.
- C. Specific gravity shall be between 1.26 and 1.30 in accordance with ASTM D 792.
- D. Hardness shall be A90 $\pm$ 5 in accordance with ASTM D 2240.
- E. Tensile strength shall be between 2600 and 3000 psi in accordance with ASTM D 412.
- F. Vinyl coating shall be exposure-resistant to dilute solutions of most common mineral acids, sea water, salts, and alkali.
- G. Vinyl coating shall be continuously bonded to the wire under 5000 psi pressure before the wire is woven into fabric.

2.4 GATES

- A. Conform to FS RR-F-00191/2 Type A single swing or double swing as shown. Frames shall be round zinc-coated steel assembled with corner fittings and 3/8 inch steel truss rods. Fabric shall be same as for fence. Hinges shall allow for swinging the gate open through a 180 degree arc. Latches for double gates shall be of the plunge bar type operable from either side of the gate with integral padlock clasp. Keepers shall be provided for double gates.

2.5 POSTS

A. Conform to FS RR-F-00191/3, Type 1, Class 1, diameters as follows:

1. Line post: 2 inches diameter
2. Corner post: 3 inches diameter
3. Gate post: 4 inches diameter.

2.6 TOP RAILS AND BRACES

A. Conform to FS RR-F-00191/3 Type II Class 1, with top rail and braces 1-5/8 inches in diameter.

2.7 BARBED WIRE SUPPORT ARMS

A. Conform to FS RR-F-00191/4 Type X.

2.8 BARBED WIRE

A. Shall be four point pattern, two strand No. 12-1/2 gauge Aluminumized steel after weaving with large barbs placed 3 inches apart.

2.9 CONCRETE

A. Class B, as described in Section 03000.

2.10 BOTTOM TENSION WIRE

A. The bottom tension wire shall be not less than no. 7 gage wire. Tie or clips shall be provided for attaching the wire to the fabric at intervals not exceeding 2 feet.

PART 3 - EXECUTION

3.1 INSPECTION:

- A. Stake out location of fence and gate prior to installation. Obtain approval of fencing and gate location from Engineer prior to any installation.
- B. Verify that final grading in fence location is completed without irregularities which would interfere with fence installation. Assure that maximum gap between fence fabric and ground will be no greater than 3 inches.

3.2 PREPARATION

- A. Measure and lay out complete fence line.
- B. Measure parallel to surface of ground.
- C. Locate and Mark position of posts.

- D. Locate line posts at equal distance spacing, not exceeding 10 foot centers.
- E. Locate corner posts at positions where fence changes direction more than 10 degrees.

3.3 INSTALLATION

A. Posts

- 1. Minimum post hole diameter three times outside post diameter.
- 2. Minimum post hole depth 3 in. below post bottom.
- 3. Place concrete in hole to depth of post bottom.
- 4. Set post plumb to 1/4 in. in 10 ft.
- 5. Fill hole with concrete to 2 in. above grade.
- 6. Crown surface of concrete to slope away from post.

B. Fence Fabrics

- 1. Stretch fabric tight between terminal post.
- 2. Position bottom of fabric approximately 1 in. to 2 in. above ground level at each post.
- 3. Join ends of fabric by weaving with single strand of fabric wire to form continuous mesh pattern with selvage twisted to match balance of fabric.
- 4. Attach fabric to line posts using wire ties or clips, spacing not to exceed 15 in. o.c.
- 5. Attach top edge of fabric to top rail using wire ties or clips, spacing not to exceed 24 in. o.c.
- 6. Attach bottom edge of fabric to bottom tension wire using wire ties or clips not to exceed 24 in. o.c.

C. Gates

- 1. Install gates plumb and level 1/4 in. in 10 ft.
- 2. Install ground-set items in concrete.
- 3. Adjust hardware to provide smooth operation.

D. Corners

- 1. Install corners with a radius similar to top of the pond, using a minimum of four post.

3.4 ADJUST AND CLEAN

- A. Adjust brace rails and tension rods for rigid installation.
- B. Tighten hardware, fasteners, and accessories.
- C. Remove excess and waste materials from project site.

END OF SECTION 02444

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**SECTION 02920
LAWNS AND GRASSES**

PART 1 – GENERAL

1.1 SUMMARY

This Section includes seeding and sodding for permanent grassing.

1.2 SUBMITTALS

- A. Submittal data shall comply with the provisions of Section 01330.
- B. Product Data: For each type of product indicated.
- C. Product certificates.
- D. Planting Schedule: Indicating anticipated planting dates.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Sod: Harvest, deliver, store, and handle sod according to requirements in TPI's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding."

1.4 AREAS TO BE GRASSED

- A. All graded or disturbed areas within the construction limits where natural vegetation has been removed except areas to be paved.
- B. All existing areas within the areas of construction on the site shall be re-grassed to meet the requirements herein.

PART 2 – PRODUCTS

2.1 SEED

- A. Seed Species: State-certified seed of grass species, as follows:

<u>Season</u>	<u>Kinds of Seed</u>	<u>Pounds per Acre</u>
Jan 1-May 15	Unhulled Common Bermuda	30
	Kentucky 31 Fescue	75
	Winter Rye Grass	25
May 16-Sept 1	Hulled Common Bermuda	30
	Kentucky 31 Fescue	75
Sept 2-Dec 31	Unhulled Common Bermuda	30
	Kentucky 31 Fescue	75

2.2 TURFGRASS SOD

- A. Turfgrass Sod: Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with TPI's "Specifications for Turfgrass Sod Materials" in its "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.
- B. Turfgrass Species: Tall Fescue, Centipede, or Bermuda.

2.3 FERTILIZER

- A. Commercial Fertilizer: Commercial grade fertilizer grade 5-10-15 at the rate of 1500# per acre.

2.4 LIME

- A. Agricultural lime shall meet the requirements of the Georgia Department of Transportation's Standard Specification Section 882.2, latest edition.

2.5 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew and seed free, straw of wheat, rye, oats, or barley.

PART 3 – EXECUTION

3.1 STAND OF GRASS REQUIRED

- A. It is the intent of this specification that the CONTRACTOR is obliged to deliver a satisfactory stand of perennial grass before final payment will be made. If it is necessary to repeat any or all of the work, including plowing, fertilizing, watering and seeding, the CONTRACTOR shall nevertheless repeat these operations as a part of this contract until a satisfactory stand is obtained.

3.2 LAWN PREPARATION

- A. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 1. Apply fertilizer and lime directly to subgrade before loosening.
- B. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future.
- C. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- D. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

3.3 SEEDING

- A. Sow seed at the rate of listed above or shown on the plans.
- B. Rake seed lightly into top 1/8 inch of topsoil, roll lightly, and water with fine spray.
- C. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.
- D. Upon seeding, lime shall be uniformly distributed at a rate of 1 ton per acre over the seeding area with a mechanical spreader.

3.4 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
- C. Saturate sod with fine water spray within two hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.5 SATISFACTORY LAWNS

- A. Satisfactory Seeded Lawn: At end of maintenance period, grass areas will be considered acceptable when a viable stand of grass covers at least 98% of the total area with no bare spots exceeding one square foot, and the ground surface is fully stabilized against erosion.
- B. Satisfactory Sodded Lawn: At end of maintenance period, a healthy, well-rooted, even-colored, viable lawn has been established, free of weeds, open joints, bare areas, and surface irregularities.
- C. Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

END OF SECTION 02920

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SECTION 03100 CONCRETE FORMWORK

PART 1-GENERAL

1.1 SUMMARY

- A. The work under this section of furnishing all labor, materials equipment and all other items necessary for the complete and approved installation of formwork required for concrete work including anchor bolt installation.

1.2 QUALITY ASSURANCE

- A. Materials and work shall conform to the requirements of standards, codes and recommended practices outlined in this section. In conflicts between industry standards, or required standards and this Specification or this Specification and the local code, the more stringent requirement shall govern.
- B. Source Quality Control. Materials and fabrication procedures are subject to inspection and tests at the source and in the field by the ENGINEER. Such inspection and tests will not relieve the CONTRACTOR of responsibility for providing materials and fabrication procedures in compliance with specified requirements. The CONTRACTOR shall promptly remove and replace materials or fabricated components which do not comply.

1.3 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referenced in the text by the basic designation only. All publications shall be the latest edition.
 - 1. American Concrete Institute (ACI):
 - 1. 117 – Standard Tolerances for Concrete Construction and Materials.
 - 2. 301 – Specifications for Structural Concrete for Buildings.
 - 3. 302.1 – Guide for Concrete Floor and Slab Construction.
 - 4. 318 – Building Code Requirements for Structural Concrete.
 - 5. 347 – Recommended Practice for Concrete Formwork.
 - 6. SP-4 – Formwork for Concrete.

1.4 SUBMITTALS

- A. Submit to the ENGINEER, in accordance with the Section 01330, copies of all materials required to establish compliance with this Section.
- B. All formwork shop Drawings and related computations shall be furnished the ENGINEER for record purposes only. Shop Drawings shall cover all formwork required. They shall show general arrangement of forms, sizes and grades of lumber, placement; construction and control joints and their method of forming; locations of inserts, tees, sleeves, and other

related items. Drawings or descriptions of shoring and re-shoring methods proposed for floor and roof slabs, spandrel beams, and other horizontal concrete members shall also be furnished.

C. Provide data on waterstops.

1.5 SEQUENCING/SCHEDULING

A. The CONTRACTOR shall schedule delivery and erection of formwork to coincide with reinforcement and concrete placement to ensure continuous work.

PART 2 - MATERIALS

2.1 FORMWORK

A. Formwork shall be designed for loads, lateral pressure and allowable stress in accordance with ACI 301, ACI 347 and ACI SP-4. Design, ENGINEERING and construction of the formwork shall be the responsibility of the CONTRACTOR.

B. Form Materials

1. Forms shall be of wood, plywood or steel and shall be as recommended in ACI 347 and ACI SP-4. The form materials shall be appropriate for the intended finishes.

C. Permanent Forms

1. Permanent forms for elevated slabs shall be metal deck forms.

D. Form Ties

1. Form ties shall be designed so that the ends or end fasteners can be removed without causing appreciable spalling at the faces of the concrete. After the ends or end fasteners of form ties have been removed, the embedded portion of the ties shall terminate not less than $\frac{3}{4}$ inch from the formed surfaces of concrete to be permanently exposed to view. Form ties in structures exposed to hydrostatic pressures (shall have waterstops that are an integral part of the form tie and the embedded portion of the ties shall terminate not less than 1-1/2 inches from the formed face). Gang form ties shall be filled from one end with a compressible plug a minimum of 1 1/2 inches from the edge of wall, and shall have a bentonite plug in the center of the wall and all voids filled with non-shrink grout.

E. Chamfer Strips

1. Unless noted otherwise on the Drawings all exposed corners of beams, columns, walls, slabs, etc. shall have $\frac{3}{4}$ inch chamfers including opening for doors, windows, and other similar openings.

F. Waterstops

1. Water stops shall be polyvinyl chloride, 6 inch wide, maximum possible lengths, dumbbell profile with center bubble, preformed corner sections, heat welded jointing. Bentonite waterstops may also be used with approval of the appropriate shop Drawings by the ENGINEER.

G. Accessories

1. Form accessories shall be of commercially manufactured types suitable for the formwork and the intended usage.

H. Anchor Bolts

1. Anchor bolts shall be ASTM A307 or A36 with cut threads.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with Drawings.
- B. All surfaces of forms and embedded materials shall be cleaned of any accumulated mortar or grout from previous concreting.
- C. All items which are to be embedded in concrete and which must be built into formwork shall be located and readied for installation prior to placement of any concrete. Coordinate all items with the various trades.

3.2 INSTALLATION

- A. Construction and erection of formwork shall be in accordance with ACI 347, ACI SP-4 and as specified herein.
- B. All formwork, supports, braces, shoring, etc. shall be of sufficient strength to properly support the concrete, the construction loads, and any superimposed loads and to maintain the work in perfect alignment until the formwork can be safely removed. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Chamfer strips shall be placed in the corners of forms and on the edges of formed joints to produce beveled edges on permanently exposed surfaces. To maintain the specified tolerances, the formwork shall be cambered to compensate for anticipated deflections in the formwork prior to hardening of the concrete. Positive means of adjustment (wedges or jacks) of shoes and struts shall be provided and all settlement shall be taken up during concrete placing operation. Temporary openings shall be provided at the base of column forms and wall forms and at other points where necessary to facilitate cleaning and observation immediately before concrete is placed. At construction joints, contact surface of the form sheathing for flush surfaces exposed to view shall overlap the hardened concrete in the previous placement by not more than one inch. The forms shall be held against the hardened concrete to prevent offsets or loss of mortar at the construction joint and to maintain a true surface. All forms shall be clean and free of sawdust, dirt and debris before concrete placement.
- C. All items to be embedded in the concrete shall be properly located and braced to the formwork. Blockouts or openings necessary for future work shall be properly built into the formwork. Coordinate the location of embedded items and blockouts with other trades involved in the project. Blockouts shall be approved by the ENGINEER.
- D. Install waterstops continuous without displacing reinforcement. Heat seal joints watertight.
- E. After cleaning forms and before placing either the reinforcement or the concrete, the surfaces of the forms shall be covered with a coating material that will effectively prevent absorption of moisture and prevent bond with the concrete, and will not stain the concrete surfaces. A field-applied form release agent or sealer or a factory-applied nonabsorptive liner may be used. Manufacturer's recommendations should be followed in the use of coatings, sealers, release agents, and liners, but independent investigation by the CONTRACTOR of their

performance is recommended before use. Where surface treatments and finishes are to be applied to formed concrete surfaces, adhesion of such surface treatments and finishes shall not be impaired or prevented by use of the coating, sealer, release agent, or liner. Excess form coating material shall not be allowed to stand in puddles in the forms, nor shall such coating be allowed to come in contact with hardened concrete against which fresh concrete is to be placed, or with reinforcement.

- F. The CONTRACTOR shall set and maintain concrete forms to ensure that, after removal of the forms and prior to patching and finishing, no portion of the concrete work will exceed any of tolerances specified. Variations in floor levels shall be measured before removal of supporting shores. The CONTRACTOR shall be responsible for variations due to deflection, when the latter results from concrete quality or curing other than that which has been specified. The tolerances specified shall not be exceeded by any portion of any concrete surface; the specified tolerance for one element of the structure to exceed its allowable variations.
- G. Flush with water or use compressed air to remove foreign matter from the formwork. Ensure that the water debris drain to exterior through clean-out ports.
- H. During cold weather, remove ice and snow from within forms. Do not use deicing salts or water to clean out forms, unless formwork and concrete construction proceed within heat enclosure. Use compressed air or other means to remove foreign matter.

3.3 TOLERANCES

- A. Vertical or Horizontal wall surface tolerances shall be within $\frac{1}{4}$ " in 10 feet or a maximum of 1" on walls over 40 feet high. Wall thickness tolerances shall be within $\frac{1}{4}$ " minus or $\frac{1}{2}$ " plus from plan dimensions.
- B. Slab finish tolerances shall be within $\frac{1}{8}$ " in 10 feet. Slab thickness tolerances shall be within $\frac{1}{4}$ " minus or $\frac{1}{4}$ " plus from plan dimensions.
- C. Anchor bolt placement shall be within $\frac{1}{8}$ inch center to center of any two anchor bolts in a group, within $\frac{1}{4}$ inch center to center of adjacent groups, and $\frac{1}{4}$ inch within specified elevation.

3.4 FORM REMOVAL

- A. No construction loads shall be supported on, nor any shoring removed from, any part of the structure under construction except when that portion of the structure in combination with the remaining forming and shoring system has sufficient strength to support safely its weight and the loads placed thereon. This strength may be demonstrated by job-cured test specimens and by a structural analysis considering the proposed loads in relation to these test strengths and the strength of the forming and shoring system. In no case shall beams for walls or columns be removed in less than 24 hours from the completion of the pour. Form work supporting weight of concrete, such as beams and elevated slabs shall remain until the concrete has attained a minimum of 80% of the 28 day design strength.

END OF SECTION 03100

SECTION 03200
CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.1 GENERAL

- A. The CONTRACTOR shall provide complete, in place, all steel required for reinforcement of cast-in-place concrete.

1.2 SUBMITTALS

- A. Submit complete shop DRAWINGS in accordance with Division 01330 of all material proposed to be furnished and installed under this Section.
 - 1. Show schedules, stirrup spacing, diagrams of bent bars and arrangement and assemblies.
 - 2. Shop DRAWINGS shall be in accordance with ACI 315.
- B. Accompanying the Shop DRAWINGS, submit steel producer's certificates of mill analysis, tensile, and bend tests for reinforcing steel.

1.3 PRODUCT HANDLING

- A. Deliver reinforcement to the job site bundled, tagged, and marked. Use metal tags indicating bar size, lengths, and other information corresponding to markings shown on placement diagrams.
- B. Store reinforcement above the surface of the ground upon wooden platforms or other supports in a manner which will prevent damage and accumulation of dirt and excessive rust. The surface of the ground beneath all stored reinforcement shall be covered with plastic sheeting to further assure isolation from dirt and dust.

PART 2 – MATERIALS

2.1 MATERIALS

- A. Reinforcing bars shall comply with ASTM A615.
- B. Welded wire fabric shall comply with ASTM A185.
- C. Supports for reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement in place:
 - 1. Use wire bar type supports complying with CRSI recommendations, unless otherwise indicated. Do not use wood, brick, and other unacceptable materials.
 - 2. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support legs.
 - 3. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with either hot-dip galvanized or plastic protected legs.

2.2 FABRICATION

- A. Fabricate reinforcing bars to conform to required shapes and dimensions, with fabrication

tolerances complying with CRSI Manual. In case of fabricating errors, do not rebend or straighten reinforcement in a manner that will injure or weaken the material.

- B. Reinforcement with any of the following defects will not be permitted in the Work.
 - 1. Bar lengths, depths, and bends exceeding specified fabrication tolerances.
 - 2. Bend or kinks not indicated on DRAWINGS or final Shop Drawings.
 - 3. Bars with reduced cross-section due to excessive rusting or other cause.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the foundation, formwork, and the conditions under which concrete reinforcement is to be placed, and correct conditions which would prevent proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General

- 1. Comply with the specified standards for details and methods of reinforcement placement and supports, and as herein specified.
- 2. Clean reinforcement to remove loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete.
- 3. Position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers as required.
- 4. Place reinforcement to obtain the minimum coverage for concrete protection. Arrange, space, and securely tie bars and bar supports together with 16 gage wire to hold reinforcement accurately in position during concrete placement operations. Set wire ties so that twisted ends are directed away from exposed concrete surfaces.
- 5. Install welded wire fabrics in as long lengths as practicable. Lap adjoining pieces at least one full mesh.
- 6. Provide sufficient numbers of supports and of strength to carry reinforcements. Do not place reinforcing bars more than 2" beyond that last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

B. Splices

- 1. Provide standard reinforcement splices by lapping ends, placing bars in contact, and tightly wire tying. See splice schedule on DRAWINGS. Bars marked continuous shall be lapped as required by splice schedule, and at corners, corner bars shall be provided.

3.3 BAR COVER

- A. Reinforcing bars shall be fabricated, tied and supported to ensure a protective concrete cover as shown on the structural DRAWINGS.

END OF SECTION 03200

**SECTION 03300
CAST-IN-PLACE CONCRETE**

PART 1 - GENERAL

1.1 SUMMARY

- A. Concrete, placing of sleeves, pipes, and anchor bolts, finishing, curing, and all equipment and incidentals necessary to do all the concrete work as shown on the drawings or specified.

1.2 RELATED WORK

- A. Concrete Formwork is included in Division 3.
- B. Concrete Reinforcement is included in Division 3.
- C. Grout is included in Division 3.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01330, complete shop drawings and product data including, but not necessarily limited to:
 - 1. Location of all proposed construction joints, keying, and water stops
 - 2. Location of all openings, depressions, construction and control joints, trenches, sleeves, inserts, and other items affecting the reinforcement and placing of concrete.
 - 3. Complete materials list of items proposed to be furnished and installed under this Section
 - 4. Complete information on cement source of supply, physical and chemical characteristics, transportation and intermediate terminating procedures for mill-to-site handling, and site storage procedures
 - 5. Complete information on aggregate procurement, processing, and storage
 - 6. Complete information on proposed batching and mixing equipment and procedures, including water chilling or other devices or systems to reduce mix temperatures
 - 7. Complete information on concrete handling equipment proposed to be used, including capacities, for chutes, pumps, tremies, buckets, and all other equipment
 - 8. Complete description of proposed curing materials and methods
 - 9. Complete mix designs
 - 10. Remolded joint filler
 - 11. Waterstops
 - 12. Wedge inserts
 - 13. Expansion bolts
 - 14. Anchor bolts
 - 15. Foundation bolts
 - 16. Admixtures
 - 17. Hardening and dust-proofing compounds

18. Form Ties
19. Any gang forming information

B. Test Reports

1. Fine aggregates – sieve analysis, physical properties, and deleterious substances
2. Coarse aggregates - sieve analysis, physical properties, and deleterious substances
3. Cements – chemical analysis and physical properties for each type.
4. Proposed concrete mixes – compressive strength, lump, shrinkage, and air content.

C. Certifications

1. Certify admixtures used in the same concrete mix are compatible with each other and the aggregates.

D. Do not begin concrete production until all products and mix designs have been reviewed by the ENGINEER.

1.4 REFERENCE STANDARDS

A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.

B. American Society for Testing and Materials (ASTM)

1. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
2. ASTM C33 - Standard Specification for Concrete Aggregate.
3. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C42 - Standard Test Method for Obtaining and testing Drilled Cores and Sawed Beams of Concrete.
5. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
6. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
7. ASTM C150 - Standard Specification for Portland Cement.
8. ASTM C157 - Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete.
9. ASTM C171 - Standard Specification for Sheet materials for Curing Concrete.
10. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
11. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
12. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
13. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
14. ASTM C494 - Standard Specification for chemical Admixtures for Concrete.
15. ASTM C596 - Standard Test Method for Drying Shrinkage of Mortar Containing Hydraulic Cement.

- C. American Concrete Institute (ACI)
 - 1. ACI 211.1 – Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
 - 2. ACI 301 - Specifications for Structural Concrete for Buildings
 - 3. ACI 304R – Guide for Measuring, Mixing, Transporting and Placing Concrete.
 - 4. ACI 304.2R – Placing Concrete by Pumping.
 - 5. ACI 305R – Hot Weather Concreting
 - 6. ACI 306R - Cold Weather Concreting
 - 7. ACI 318 – Building Code Requirements for Structural Concrete.
- D. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Cement: Store in weathertight buildings, bins or silos to provide protection from dampness and contamination.
- B. Aggregate: Arrange and use stockpiles to avoid excessive segregation or contamination with other materials or with other sizes of like aggregate. Build stockpiles in successive horizontal layers, not exceeding 3-ft. in thickness. Complete each layer before the next layer is started. Do not use frozen or partially frozen aggregate.
- C. Sand: Arrange and use stockpiles to avoid contamination. Allow sand to drain to a uniform moisture content before using. Do not use frozen or partially frozen aggregates.
- D. Admixtures: Store in closed containers to avoid contamination, evaporation, or damage. Provide suitable agitating equipment to assure uniform dispersion of ingredients in admixture solutions that tend to separate. Protect liquid admixtures from freezing and other temperature changes that could adversely affect their characteristics.
- E. Sheet Curing Material: Store in weathertight buildings or off the ground under cover.
- F. Liquid Curing Compound: Store in closed containers.

PART 2 - PRODUCTS

2.1 CEMENT

- A. Unless otherwise specified or shown on the DRAWINGS, concrete shall be made with the Portland cement conforming to ASTM Specification C-150, Type I or Type II. All below grade structures and basins coming into contact with wastewater shall be Type II. Above grade structures shall be either Type I or Type II. The lightest colored Portland cement, competitively available shall be used, and the same brand of cement shall be used throughout the entire project.
- B. High early strength Portland cement shall conform to ASTM Standard Specification C150, Type III.

2.2 AGGREGATES

- A. General: All aggregates shall conform to requirements of ASTM C 33.

B. Fine Aggregate

1. The fine aggregate shall consist of clean, hard, durable, uncoated particles of sand. It shall be free from dust mica, shale, alkali, organic matter, loam, soft or flaky particles.
2. Deleterious Substances - The fine aggregate shall contain not more than one percent (1%) by weight of clay lumps of more than three percent (3%) by weight of material removed by decantation.
3. Grading - Fine aggregate shall conform to the following requirements:

<u>Total Passing</u>	<u>Percent by Weight</u>
3/8-in. sieve	100
No. 4 sieve	95 - 100
No. 16 sieve	45 - 95
No. 50 sieve	10 - 30
No. 100 sieve	2 - 8

4. Tests - Fine aggregate shall be subjected to the Colorimetric test for organic impurities and if it produces a color darker than the standard, it shall be rejected. It shall conform in all other respects to ASTM Designation C 33.

C. Coarse Aggregate

1. Composition and Quality - Coarse aggregate shall be washed gravel or crushed stone and shall consist of hard, tough, uncoated, durable particles. It shall contain no vegetable matter or soft, flaky, thin, or elongated particles. Deleterious substances shall not exceed the following amounts:
 - a. Soft fragments 0.20%
 - b. Coal and lignite..... 0.25%
 - c. Clay lumps..... 0.25%
 - d. Material passing No. 200 Sieve 1.50%
 - e. Thin or elongated pieces (length greater than 5 times the average thickness) 10 %

- D. Grading - Coarse aggregate shall be well graded between the limits specified below:

<u>Total Passing</u>	<u>Percent by Weight</u>
2-in. Sieve	100
1-1/2-in. Sieve	90 - 100
1-in. Sieve	55 - 80
3/4-in. Sieve	35 - 70
1/2-in. Sieve	20 - 45
3/8-in. Sieve	10 - 30
No. 4 Sieve.....	0 - 15
No. 16 Sieve.....	0 - 1

2.3 WATER

- A. The water used in mixing concrete shall be fresh, clean, potable and free from oil, acid, alkali,

organic matter, and deleterious amounts of chloride ion.

2.4 CONCRETE ADMIXTURES

- A. Admixtures shall conform to ASTM C 494; Type F for high range water reducing and Type G for high range water-reducing/set-retarding. Air entraining agents shall conform to ASTM C 260. When more than one admixture is used the two products shall be compatible and have a single manufacturer.
- B. All Class "A" Concrete shall contain a (Daracem - 100 or an alternate approved by the ENGINEER) high range water-reducing agent (superplasticizer). The dosage of the high range water reducing agent shall be at least 10 oz./100 lbs. of cement, but shall not produce a plasticized slump greater than 8-in. The high range water reducing agent shall be added at the site prior to concrete placement.
- C. Admixtures, if not specified, may be used only upon written approval of the ENGINEER and shall be used only as recommended by the manufacturer. Admixtures shall, when added to the mixture, produce a concrete of specified strength in both 7 and 28 day tests. Documentary evidence of acceptability will be required when new or unknown admixtures are proposed for usage.
- D. Admixtures shall be Grace Construction Products or an alternate approved by the ENGINEER.

2.5 CLASSIFICATION

- A. The following classes of concrete are included in these specifications and shall be used where specified herein or called for on the DRAWINGS:

	Class "A" Concrete	Class "B" Concrete
Cement content -Minimum number of sacks (94 lb.) per cubic yard	6	5
Maximum water to cement ratio (gal. water per sack cement)	5.1	6.5
Entrained air	3% - 6%	3% - 6%
Minimum Superplasticizer content per 100 lbs. of cement	10 oz.	0 oz.
Minimum 7 day compressive strength	2,400 psi	1,400 psi
Minimum 28 day compressive strength	4,000 psi	2,500 psi

- B. In the absence of contrary designation, concrete used for all construction shall be Class "A".

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before the placing of any concrete, the footing trenches shall be drained of water and mud film removed and any loose dirt lifted out. Any flow of water shall be diverted by side drains to a sump, or removed by other approved methods, while the concrete is being placed.
- B. Before placing concrete in any forms, the forms shall be cleaned, and all debris shall be removed. All reinforcing shall be checked to be sure that the reinforcing is not touching the

form or pan sides.

- C. Before placing any concrete, it shall be determined that all work that is to be built into the concrete work is located and installed. All such items shall be placed so as not to interfere with the reinforcing steel.
- D. Wood board forms shall be soaked with water just before the concrete is poured.
- E. Special measures shall be taken in both severe cold and hot weather and shall be in accordance with ACI Recommended Practice.
- F. Before placing any new concrete on or against concrete that has set, the existing surfaces shall be thoroughly roughened and cleaned of all foreign matter and "Laitance." Forms shall be retightened and the existing surfaces slushed with a coat of grout. The new concrete shall be placed immediately after grouting, and the work shall be performed in such manner as to insure complete bonding of newly poured concrete to the existing work.
- G. Grout for construction joints shall consist of a mixture of neat cement and water, and shall be applied to the old concrete surface immediately before the new concrete is poured. Grout for setting column bases, wall plates, and beams shall be composed of one part Portland cement two parts sand, and sufficient water to produce the consistency required.
- H. Where excavations exceeding a depth of five feet are prescribed to be made to install the foundations or any part of the structure of this building, or any retaining walls on the site, the back slope of such excavation shall be at an incline not exceeding one vertical to one and one-half horizontal unless such back slope is sheeted and braced. If sheeting and bracing is to be provided, such sheeting and bracing shall be designed by an ENGINEER registered in the state of Georgia. Design shall provide for such pressures presented in the latest edition of the CRSI Design Handbook, unless a registered soils engineer determines more specific pressures. The cost of such design work shall be paid for by the CONTRACTOR.

3.2 MIXING AND DELIVERY

- A. Machine Mixing: All mixing of concrete shall be done in a batch mixer, of approved design, which will insure a uniform distribution of the material throughout the mass, so that the mixture is uniform in color and homogenous. The entire content of the mixer drum shall be discharged before recharging. All material to be mixed per batch shall not exceed the manufacturers' rated capacity of the mixer.
- B. Time of Mixing: The mixing of each batch shall continue not less than one and one-half (1-1/2) minutes after all the materials, including water, are in the mixer, during which time the mixer shall rotate at a peripheral speed of about two hundred (200) feet per minute.
- C. Mixing at Central Plant: Concrete mixed in a central plant, shall be conveyed to the work in approved mixer trucks that mix the concrete in route to the work. Plant layout and equipment shall meet the approval of the ENGINEER. Loading tickets shall be initialed and the time of loading stamped thereon. The loading tickets shall be handed to the ENGINEER on the work before the load is placed, and no concrete will be accepted which has been in the mixer truck more than one and one-half (1-1/2) hours after the water has been added. In all other respects, ready mixed concrete shall conform to ASTM Specification C 94.
- D. Waste concrete shall be deposited and mix trucks washed out only in areas designated by the owner or the ENGINEER.

3.3 SLUMP

- A. The maximum slump allowed for the various types of construction are as follows:

<u>Type of Construction</u>	<u>Maximum Slump</u>
Reinforced Foundation Walls & Footings	4-in.
Slabs, Beams, Reinforced Walls & Columns.....	4-in.
Heavy Mass Construction	2-in.
All Concrete Plasticized by Admixtures	8-in.

- B. Slump tests shall be made at the discretion of the ENGINEER, and concrete having greater slump than specified shall not be incorporated into the work. The CONTRACTOR shall furnish slump test cones conforming to the provisions of ASTM C 143.

3.4 PLACING CONCRETE

- A. All concrete shall be placed in daylight, and any portion of the concrete work started shall be started so that it can be completed in daylight. No concrete shall be placed until the foundation, forms, false-work, and the placing of the steel have been approved by the ENGINEER. Approval by the ENGINEER does not relieve the CONTRACTOR of his obligation to produce finished concrete as required.
- B. The concrete shall be placed in such a manner as to avoid the possibility of segregation of the aggregates, or the displacement of the reinforcement steel. The concrete shall be placed as near its final resting place as possible. If pipes, troughs, or chutes are used in placing the concrete, they shall be arranged and used so the concrete is not separated, and shall be kept clean and free of hardened concrete at all times. Troughs and chutes shall be either made of metal or shall be metal lined, and shall extend as nearly as possible to the point of deposit.
1. In walls and columns, the concrete shall not be dropped more than five (5) feet without the use of a tremie. Concrete shall be placed in continuous horizontal layers, approximately 10-in. to 12-in thick, and the batches shall follow each other so closely that each one is placed and compacted before the preceding one has taken an initial set. Succeeding layers shall be placed before the underlying layer has become set, and shall be compacted in a manner that will entirely break up and obliterate the tendency to produce a construction joint between layers.
 2. Concrete in beams, girders, columns and walls shall be well spaded at the form surface and all concrete shall be compacted by an approved mechanical type vibrator having a frequency of not less than 8,000 vibrations per minute. The CONTRACTOR shall provide the necessary number of vibrators to properly execute the work, and shall have on the job at all times necessary spare vibrators to be used in case of mechanical failure. Construction joints shall be made only at the location as shown on the DRAWINGS, except by approval of the ENGINEER.
- C. In making construction joints, the previous work shall be cleaned of all "laitance", and other objectionable material, and shall be brushed with a thin mixture of Portland cement and water immediately before the new concrete is placed.
- D. The operation of placing and compacting the concrete shall be conducted so as to form a compact, dense, impervious artificial stone of uniform texture, with smooth faces on exposed surfaces. Any section of concrete that is porous, or has been plastered, or is otherwise defective, shall be removed and replaced, in whole or in part, entirely at the CONTRACTOR'S expense, as directed by the ENGINEER.
- E. Depositing Concrete Under Water: Concrete shall not be exposed to the action of water

before setting, or deposited in the water, except upon the approval of the ENGINEER, and under his supervision.

F. Cold Weather Placing

1. Comply with ACI 306 to protect all concrete work from physical damage and reduced strength that would be caused by frost, freezing actions, or low temperatures. No concrete shall be placed when the atmosphere temperature is below 40° F.
2. If the temperature drops below 40° F after the concrete has been placed, the CONTRACTOR shall provide adequate means for maintaining concrete temperature of not less than 45° F for a period of five (5) days after the concrete is placed. The CONTRACTOR shall assume all risk connected with placing concrete in cold weather, and any unsatisfactory work will be rejected. Recording thermometers shall be supplied by the CONTRACTOR as required by the ENGINEER.

G. Hot Weather Placing: When hot weather conditions exist which would seriously impair the quality and strength of concrete, place the concrete as follows:

1. Maintain concrete temperature at time of placement below 90° F. Use chilled mixing water or chopped ice to control concrete temperature, provided the water equivalent of the ice is calculated to the total amount of water.
2. Cover reinforcing steel with water soaked burlap if the steel becomes too hot. Steel temperature shall not exceed the ambient air temperature immediately prior to placement of concrete.
3. Wet forms thoroughly prior to placement of concrete.
4. Use set control admixtures in the mix.

3.5 PROTECTION AND CORRECTIVE WORK

- A. Workmen shall not walk on concrete during placing or finishing with any earth or foreign matter footwear.
- B. All freshly placed concrete shall be protected from damage or injury due to water, falling objects, persons or anything that might mar or injure the finish surface of the concrete. Any surfaces that are damaged shall be removed and replaced with fresh concrete at the expense of the CONTRACTOR.
- C. Care shall be taken in the removal of the forms not to damage the surface of the concrete. Immediately after the forms are removed, all damaged or imperfect work shall be patched. If in the opinion of the ENGINEER, the patching does not restore the work to the quality specified, the CONTRACTOR shall remove and rebuild the work at his expense.
- D. Where DRAWINGS call for walls to be shored before backfill is made against them, the walls are to be shored to resist the active pressure of the earth as tabulated in the latest edition of the CRSI Design Handbook. Such shoring is to remain in place until the wall is "tied in" to the floor slab on ground. Such walls are not to be construed as "free standing".
- E. Where concrete or concrete work does not conform to these specifications and where patching is not approved by the ENGINEER or low strength concrete is not permitted to remain in place, procedures and DRAWINGS covering all work to be rebuilt shall be submitted by the CONTRACTOR to the ENGINEER before removal and rebuilding is begun. The cost of such DRAWINGS, as well as the cost of removal and rebuilding shall be at the

CONTRACTOR'S expense.

3.6 FINISHING

A. Floors, including slabs on ground, shall be finished as follows:

1. The surfaces of all concrete shall be worked with a wood float in a manner that will compact the concrete and produce a surface free of depressions or inequalities of any kind. Test for grade (of level) and correct by removing excess or adding and compacting additional concrete.
2. All interior floor slabs shall receive steel trowel finish as follows:
 - a. After screeding, slab shall be wood floated to a smooth, plane surface.
 - b. When concrete has hardened, to prevent excess fines from working to surface, steel trowel to a smooth surface free from defects. A second steel troweling shall be done producing a plane, hard, dense, finished surface.
 - c. Interior slabs shall also receive a hardening and dust proofing treatment of a colorless aqueous solution of zinc or magnesium fluosilicate applied in strict accordance with manufacturer's recommendations.
 - d. Troweling shall not begin until all surface water has disappeared. The drying of the surface moisture before troweling must proceed naturally and must not be hastened by sacking or dusting on of dry sand and cement.
3. After exterior floors, platforms and steps are struck off smooth with a wood float and received a trowel finish, slightly roughen the concrete surface by brooming in the direction perpendicular to the main traffic route. Use a fiber bristle broom.
4. Exposed concrete surfaces shall be finished as follows:
 - a. The exterior surfaces of all concrete shall be thoroughly worked during the placing operation, by the use of a concrete spade of approved type. The working shall force all coarse aggregate from the faces, and work mortar against the forms to produce a smooth finish, free from water and air pockets, or honeycomb.
 - b. After the concrete has set sufficiently to permit, the forms shall be carefully removed and all depressions resulting from removal of the metal spacers, and all other holes and rough places, shall be carefully pointed with a mortar composed of one part cement and two parts sand.
 - c. The surface film of all such pointed surfaces shall be carefully removed before setting occurs. The cement in the mortar used for pointing and filling holes shall be of the same brand as the cement incorporated in the concrete work.
 - d. Surface shall be rubbed smooth with carborundum brick or other abrasive within 36 hours after forms are removed. Surfaces shall be wetted and rubbed until a uniform color and texture is produced. No cement grout or slush shall be used other than the cement paste drawn from the green concrete itself by the rubbing process.
5. Exposed interior and exterior concrete walls and ceilings shall also receive an additional finish of thorocoat products as described in Division 9. Finish 2 feet below finish grade and 3 feet below low water mark on basins.

B. Unless otherwise directed the following schedule shall be used for concrete finishing:

1. Sidewalks Rough (Broomed)

2. Exposed Exterior Walls Medium (Rubbed)
 3. Interior Structure Walls Fine (Rubbed)
 4. Additional Wall Finish..... ThoroCoat per manufacturer's recommendations
 5. Slabs - Interior..... Smooth (Troweled)
 6. Slabs - Exterior..... Medium (Fine broomed)
- C. Coordinate the required finish with the ENGINEER prior to application.

3.7 CURING

A. Curing Materials

1. Liquid curing and sealing compounds shall conform to ASTM C 309, Type 1.
2. Sheet materials shall conform to ASTM C 171.
3. Burlap cloth made from jute or kenaf and weighing approximately 9 oz. per sq yd for moist curing shall conform to AASHTO M 182 and shall use two layers.
4. Compounds shall be a combination sealer-hardener and dust-proofer.

B. Procedure

1. Freshly placed concrete shall be protected from wash caused by rain and flowing water.
2. Concrete shall not be allowed to dry out from the time it is placed until seven (7) days thereafter.
3. Curing shall be accomplished by the use of an approved membrane compound to seal the water in the concrete except for surfaces that are to receive future concrete, or mortar.
4. The membrane shall be of a type that will retain ninety-seven percent (97%) of the moisture at a temperature of 135° F, with a relative humidity of thirty percent (30%) in the first twenty four (24) hours. It shall be applied in accordance with the manufacturer's recommendations and in sufficient thickness to effectively hold the water in the concrete, and must have a record of successful use for at least two years.

3.8 JOINTS

A. Construction Joints:

1. Construction joints will not be permitted except as may be shown on the Drawings and on the CONTRACTOR'S approved placement schedule.
2. If construction joints necessary for the progress of the Work are not shown on the Drawings, show them in complete detail on the Shop Drawings.
3. Provide keyways at least 1-1/2-in. deep in all construction joints in walls, slabs, and between footings and walls as shown on the DRAWINGS.

B. Isolation joints in slabs on grade:

1. Provide isolation joints in slabs on grade at points of contact between slabs on grade and vertical surfaces where indicated.

C. Control joints in slabs on grade (non watertight):

2. Control joints for non watertight slabs on ground shall be 24 gauge, galvanized, preshaped, keyed type. Joints shall be ½-in. less in depth than the slab. Joints shall be held in place with 1-in. x 1/8-in. ribbed stakes at 2-ft.-0-in. on center on the female side. The male side of the joint shall be greased or sprayed with a bond breaker.
3. Approved joints shall be as follows: Burke Concrete Accessories, Inc., Jahn Concrete Forming Products, or Keyhold, Inc.

3.9 WATER TIGHTNESS

- A. All structures for holding or carrying water, or pits below grade shall be watertight.
- B. Where the order of work requires "cold" joints (slab/wall intersections etc.), an approved, rigid waterstop shall be secured to the form work and remain imbedded in the concrete to form a watertight joint with the adjacent pour.
- C. Waterstop shall be expandable center bulb type 6 in. wide x ¼-in. thick minimum unless otherwise specifically shown on the DRAWINGS.

3.10 TESTING OF CONCRETE

- A. Testing of concrete will be done under the direction of a laboratory approved by the ENGINEER. Tests to be paid for by the CONTRACTOR.
- B. Samples for strength tests will be taken not less than one per day nor less than once per one hundred (100) cubic yards or more, and on less yardage when required by the ENGINEER. The tests shall be made in accordance with the procedure set forth in ASTM C 172 for Standard Method of Making and Storing Compression Test Specimens of Concrete in the Field, and C 39 for Standard Methods of Test for Compressive Strength Concrete. Tests shall be made by a recognized laboratory approved by the ENGINEER.
- C. Three certified copies of test results shall be furnished to the ENGINEER with each test. Each test shall consist of at least four specimens, two for field control and two for laboratory control. Each set of four cylinders shall have a numerical designation and each cylinder an alphabetical sub-designation. Thus the first set of four cylinders shall be numbered 1A, 1B, 1C, and 1D.
- D. If the evaluation of the compressive test indicates the concrete has failed to meet the specified strength, core tests shall be made of the in-place concrete. The location and number of such tests to be at the ENGINEER'S direction. Tests shall be paid for by the CONTRACTOR.
- E. If the core tests fail to verify the strength specified, the ENGINEER shall effect one of the following procedures:
 1. Have the CONTRACTOR remove and reconstruct that portion of the structure found to be defective.
 2. Accept the concrete in place and issue a change order as set forth in the General Conditions of these specifications.
- F. Tests to determine the entrained air content will be made at the job site. Frequency of testing shall be at the ENGINEER'S discretion as necessary to ensure proper air content. The testing apparatus shall be furnished by the CONTRACTOR, concrete supplier or testing laboratory at no cost to the Owner, and testing will be performed by the CONTRACTOR in the presence of the ENGINEER.

3.11 BACKFILL AGAINST WALLS

- A. Do not backfill against wall until concrete has obtained 28 day compressive strength.
- B. Place backfill simultaneously on both sides of wall, where required, to prevent differential pressures.

3.12 CLEANING OF BAINS

- A. Thoroughly clean all basins before placing into service. Remove all construction debris, clean all interior surfaces using water under pressure.
- B. All potable water holding basins shall be sterilized per Division 1.

END OF SECTION 03300

SECTION 03410
PRECAST STRUCTURAL CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following precast concrete units:
 - 1. Precast concrete vault(s)

1.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide precast structural concrete units and connections capable of withstanding design loads within limits and under conditions indicated.

1.3 SUBMITTALS

- A. Submittals shall comply with Section 01330 for each product included in this section.
- B. Design Mixes: For each concrete mix.
- C. Shop Drawings: Detail fabrication and installation of precast structural concrete units. Indicate member locations, plans, elevations, dimensions, shapes, cross sections, openings, and types of reinforcement, including special reinforcement.
 - 1. Comprehensive engineering analysis signed and sealed by the qualified professional engineer responsible for its preparation.
 - 2. Include calculated fire-resistance analysis.
- D. Samples: For bearing pads.
- E. Welding certificates.
- F. Material certificates.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator firm that assumes responsibility for engineering precast structural concrete units to comply with performance requirements.
 - 1. Participates in PCI's Plant Certification program and is designated a PCI-certified plant.
- B. Design Standards: Comply with ACI 318 and the design recommendations in PCI MNL 120, "PCI Design Handbook--Precast and Prestressed Concrete."
- C. Quality-Control Standard: Comply with PCI MNL 116, "Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products."
- D. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel"; and AWS D1.4, "Structural Welding Code--Reinforcing Steel."
- E. Calculated Fire Resistance: Where indicated, provide precast structural concrete units whose fire resistance has been calculated according to ACI 216.1/TMS 0216.1, "Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies," and is acceptable to authorities having jurisdiction.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store units at Project site to prevent cracking, distorting, warping, staining, or other physical damage, and so markings are visible.
- B. Lift and support units only at designated lifting and supporting points shown on Shop Drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel Reinforcement

- 1. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- 2. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- 3. Plain-Steel Wire: ASTM A 82, as drawn.
- 4. Deformed-Steel Wire: ASTM A 496.
- 5. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- 6. Deformed-Steel Welded Wire Fabric: ASTM A 497, flat sheet.
- 7. Prestressing Strand: ASTM A 416/A 416M, Grade 250 or 270, uncoated, 7-wire, low-relaxation strand.

B. Concrete

- 1. Portland Cement: ASTM C 150, Type I or Type III, of same type, brand, and source.
- 2. Normal-Weight Aggregates: Except as modified by PCI MNL 116, ASTM C 33 or , with coarse aggregates complying
- 3. Air-Entraining Admixture: ASTM C 260.
- 4. Fly Ash Admixture: ASTM C 618, Class C or F.
- 5. Metakaolin Admixture: ASTM C 618, Class N.
- 6. Silica Fume Admixture: ASTM C 1240.

C. Steel Connections

- 1. Carbon-Steel Shapes and Plates: ASTM A 36/A 36M.
- 2. Carbon-Steel Headed Studs: ASTM A 108, AISI 1018 through AISI 1020, cold finished; AWS D1.1, Type A or B, with arc shields.
- 3. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A; carbon-steel, hex-head bolts and studs; carbon-steel nuts; and flat, unhardened steel washers.
- 4. Finish: For exterior steel items, steel in exterior walls, and items indicated for galvanizing, apply zinc coating by hot-dip process according to ASTM A 123/A 123M, after fabrication, and ASTM A 153/A 153M, as applicable.
- 5. Shop-Primed Finish: Prepare surfaces of nongalvanized steel items, except those surfaces to be embedded in concrete, according to requirements in SSPC-SP 3 and shop-apply lead- and chromate-free, rust-inhibitive primer, complying with performance requirements in FS TT-P-664 according to SSPC-PA 1.

D. Bearing Pads:

1. Elastomeric Pads: AASHTO M 251, plain, vulcanized, 100 percent polychloroprene (neoprene) elastomer, molded to size or cut from a molded sheet, 50 to 70 Shore A durometer, minimum tensile strength 2250 psi per ASTM D 412.
 2. Random-Oriented, Fiber-Reinforced Elastomeric Pads: Preformed, randomly oriented synthetic fibers set in elastomer. Surface hardness of 70 to 90 Shore A durometer.
 3. Cotton-Duck-Fabric-Reinforced Elastomeric Pads: Preformed, horizontally layered cotton-duck fabric bonded to an elastomer. Surface hardness of 80 to 100 Shore A durometer.
 4. Frictionless Pads: Tetrafluoroethylene, glass-fiber reinforced, bonded to mild-steel plate, of type required for in-service stress.
 5. Hardboard: AHA A135.4, Class 1, tempered hardboard strips, smooth on both sides.
 6. High-Density Plastic: Multimonomer, nonleaching, plastic strip.
- E. Sand-Cement Grout: Portland cement, ASTM C 150, Type I, and clean, natural sand, ASTM C 144. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
- F. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, of consistency suitable for application.
- G. Epoxy Grout: ASTM C 881, 2-component epoxy resin, of type, grade, and class to suit requirements.

2.2 CONCRETE MIXES

- A. Prepare design mixes for each type of concrete required.
- B. Normal-Weight Concrete: Proportion mixes by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
1. Compressive Strength (28 Days): 5000 psi.
 2. Maximum Water-Cementitious Materials Ratio: 0.40.
 3. Air Content: 6 percent with a tolerance of plus or minus 1-1/2 percent.

2.3 FABRICATION

- A. Built-in Anchorages: Accurately position built-in anchorage devices and secure to formwork. Locate anchorages where they do not affect position of main reinforcement or concrete placement. Do not relocate bearing plates in units unless approved by Architect.
- B. Cast-in openings larger than 10 inches in diameter or 10 inches square according to Shop Drawings. Smaller holes may be field cut by trades requiring them, as approved by Architect.
- C. Reinforcement: Comply with recommendations in CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- D. Prestress tendons for precast structural concrete units by either pretensioning or posttensioning methods. Comply with PCI MNL 116.

- E. Mix concrete according to PCI MNL 116 and requirements in this Section. After concrete batching, no additional water may be added.
- F. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units. Comply with requirements in PCI MNL 116 for measuring, mixing, transporting, and placing concrete.
- G. Identify pickup points of precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint casting date on each precast concrete unit on a surface that will not show in finished structure.
- H. Cure concrete, according to requirements in PCI MNL 116, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture.
- I. Product Tolerances: Fabricate precast structural concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished unit complies with PCI MNL 116 product tolerances.
- J. Finish formed surfaces of precast structural concrete as indicated for each type of unit, and as follows:
 - 1. Grade B Finish: Fill air pockets and holes larger than 1/4 inch in diameter with sand-cement paste matching color of adjacent surfaces. Grind smooth form offsets or fins larger than 1/8 inch.
- K. Screed finish unformed surfaces. Strike off and consolidate concrete with vibrating screeds to a uniform finish. Hand screed at projections.
 - 1. Apply scratch finish to precast concrete units that will receive concrete topping after installation. After initial strikeoff, transversely scarify surface to provide ridges approximately 1/4 inch deep.
- L. Recess prestressing tendons a minimum of 1/2 inch, fill recesses with grout, and apply a sack finish to vertical ends of precast concrete units.
- M. Concrete Topping: Provide 2" of normal weight concrete topping on all precast double tees.

2.4 SOURCE QUALITY CONTROL

- A. Owner will employ an independent testing agency to evaluate precast structural concrete fabricator's quality-control and testing methods.
- B. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 116 requirements.
- C. Strength of precast concrete units will be considered deficient if units fail to comply with PCI MNL 116 requirements.
- D. Defective Work: Precast concrete units that do not comply with requirements, including strength, manufacturing tolerances, and finishes, are unacceptable. Replace with precast concrete units that comply with requirements.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Bearing Pads: Install bearing pads as precast concrete units are being erected. Set pads on true, level, and uniform bearing surfaces and maintain in correct position until precast concrete units are placed.

- B. Install precast structural concrete. Shore and brace precast concrete units to maintain location, stability, and alignment until permanent connections are installed.
- C. Welding: Perform welding in compliance with AWS D1.1 and AWS D1.4, with qualified welders.
 - 1. Repair damaged steel surfaces by cleaning and repriming damaged painted surfaces.
- D. Fasteners: Do not use drilled or powder-actuated fasteners for attaching accessory items to precast, prestressed concrete units unless approved by Architect.
- E. Erection Tolerances: Install precast concrete units level, plumb, square, and true, without exceeding the recommended erection tolerances in PCI MNL 127, "Recommended Practice for Erection of Precast Concrete."
- F. Grouting Connections and Joints: After precast concrete units have been placed and secured, grout open spaces at keyways, connections, and joints.
- G. Clean exposed surfaces of precast concrete units after erection to remove weld marks, other markings, dirt, and stains.

END OF SECTION 03410

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SECTION 05650 ALUMINUM HATCHES

PART 1 - GENERAL

1.1 SUMMARY

- A. Furnish all labor, equipment, materials and incidentals required to fabricate and install aluminum hatches for interior and exterior locations.

1.2 SUBMITTALS

- A. Product Data: For each product specified.
- B. Product Data: For each type of hatch specified.
- C. Shop Drawings: Include manufacturer's cut sheets, dimensional drawings, and installation procedures.

PART 2 - PRODUCTS

2.1 General

A. Interior Hatches

Interior hatches shall be single or double leaf per the drawings equal to Bilco Type J-AL or JD-AL. Covers shall be 1/4" aluminum diamond pattern plate, alloy 6061-t6, reinforced to withstand a live load of 300 pounds per square foot. Frame shall be an extrusion, alloy 6063-t6, with a continuous anchor feature incorporated. Frame is designed to direct rain water via the channel frame to drain connection. Door shall be equipped with a minimum of two heavy duty aluminum hinges with stainless steel pins so designed as to allow the cover to hinge 180 degrees and come to rest on the floor slab a recessed watertight stainless steel handle will be provided to lift and close the cover. Compression spring operators shall assist in the lifting of the covers. Provide EPDM gasket mechanically attached to the frame.

B. Exterior Hatches

Exterior hatches in concrete vaults and pits shall be single or double leaf per the drawings and equal to Bilco Type J-AL H-20 or JD-AL H-20. Covers shall be 1/4" aluminum diamond pattern plate, alloy 6061-t6, reinforced to withstand a H-20 wheel load. Frame shall be an extrusion, alloy 6063-t6, with a continuous anchor feature incorporated. Frame is designed to direct rain water via the channel frame to drain connection. Door shall be equipped with a minimum of two heavy duty aluminum hinges with stainless steel pins so designed as to allow the cover to hinge 180 degrees and come to rest on the floor slab a recessed watertight stainless steel handle will be provided to lift and close the cover. Compression spring operators shall assist in the lifting of the covers. Provide EPDM gasket mechanically attached to the frame.

PART 3 - EXECUTION

- 3.1 Installation shall be in accordance with manufacturer's instructions.
- A. Manufacturer shall guarantee against defects in material or workmanship for a period of five years.
 - B. The contractor shall furnish piping embedded in the concrete to drain hatches.
 - C. The frame drain shall be piped to the exterior of the top whether cast-in-place or pre-cast.

END OF SECTION 05650

SECTION 09800
STEEL WATER TANK PAINTING

PART 1 - GENERAL

1.1 SCOPE

- A. Work covered within this section includes the cleaning, painting and disinfection of all interior and exterior surfaces of the elevated water storage tank, including ladders, vents, balcony, overflow pipe and handrails.
- B. The Contractor shall paint the City of Flowery Branch Logo as shown on the plans on two sides of the tank, with exact side to be field determined. The City will provide the actual color descriptions to the contractor.
- C. It is the Contractor's responsibility to assure that surrounding buildings, vehicles and structures are not damaged or sprayed with paint, regardless of the environmental conditions. If buildings, vehicles or structures are damaged due to the painting, it is the Contractor's responsibility repair and/or replace the items damaged.

1.2 SUBMITTALS

- A. Submit to the Owner's Representative, in accordance with Division 1, all copies of materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Product Data: Submit manufacturer's descriptive data fully describing each product including solids by volume and un-thinned volatile organic compounds (VOC)'s. Include manufacturer's recommendations for mixing, thinning, and curing.
 - 2. Certificates: Submit manufacturers certified test reports confirming compliance with the specified performance requirements under Paragraph 1.3.
 - 3. Colors: Submit 4 color charts for color selection.
 - 4. Lead Content: Submit manufacturer's certification that products to be supplied are lead free (less than 600 ppm lead).

1.3 REFERENCE STANDARDS

- A. American Water Works Association
 - 1. AWWA D100 – Standard for Welded Steel Tanks for Water Storage
 - 2. AWWA D102 – Standard for Painting Steel Water Storage Tanks
 - 3. AWWA C652 – Standard for Disinfection of Water Storage Facilities
- B. National Sanitation Foundation
 - 1. NSF 61 – Material in Contact with Potable Water
- C. Steel Structures Painting Council Manual – Volume 1 – Good Painting Practice
- D. Steel Structures Painting Council Manual – Volume 2 – Systems and Specifications
- E. Federal Test Methods for the Performance of Paints and Coatings.

1.4 QUALITY ASSURANCE

A. Contractor Qualifications

1. The Contractor shall have three years practical experience and successful history in the Application of specified product to surfaces of steel water tanks. Upon request, he shall substantiate this requirement by furnishing a list of references and job completions.
2. The Contractor shall submit with his bid a written statement by the coatings manufacturer stating that the Contractor is familiar with the materials specified and has workers capable of performing the work specified herein.
3. The personnel performing the work shall be knowledgeable and have the required experience and skill to adequately perform the work for this project, in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting".

B. General

1. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Engineer.
2. Materials for each coating system shall be those of a single manufacturer. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.
3. All prime, intermediate and finish coating materials shall be applied in different color shades.
4. The Contractor shall obtain the approval of the Engineer of the steel surface preparation and of each coat of paint prior to applying succeeding coats. Such approval will not relieve the Contractor of the obligations stated within.
5. The Contractor shall record environmental conditions at the beginning of each daily operation, thirty minutes before painting begins and every hour during painting operations.

C. Surface Preparation

1. Surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces: SSPC-VIS 1-89", ASTM Designation D2200-95, "Pictorial Surface Preparation Standards for Painting Steel Surfaces", ASTM D 4417-91, Method A and/or Method C "Field Measurement of Surface Profile of Blast Cleaned Steel" or NACE Standard RP0287-87 "Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape". In all cases the written standard shall take precedence over the visual standard. In addition, NACE Standard RP0178-91, "Fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Service", along with the Visual Comparator, shall be used to verify the surface preparation of welds.

D. No coating or paint shall be applied when:

1. The surrounding air temperature or the temperature of the surface to be coated or painted is below the minimum surface temperature for the products specified herein.
2. Rain, snow, fog or mist is present.
3. The surface temperature is less than 5F above the dew point,
4. The air temperature is expected to drop below the minimum temperature for the products specified within six hours after application of coating. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables.

5. If any of the above conditions are prevalent, coating or painting shall be delayed or postponed until conditions are favorable. The day's coating or painting shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.
- E. Thickness and Holiday Checking:
 1. Thickness of coatings and paint shall be checked with a non-destructive, magnetic-type thickness gauge, as per SSPC-PA 2 "Measurement of Dry Film Thickness with Magnetic Gages". References in PA 2 which allow 80% of the minimum thickness specified are not acceptable. Use an instrument such as a Tooke Gauge if a destructive test is deemed necessary by the Engineer.
 2. The integrity of interior coated surfaces shall be checked with a low voltage holiday detector in accordance with NACE Standard RP0188. Non-destructive holiday detector shall not exceed 67.5 volts, nor shall destructive holiday detector exceed the voltage recommended by the manufacturer of the coating system. A solution of 1 ounce non-sudsing type wetting agent, such as Kodak Photo-Flo, and 1 gallon of tap water shall be used to perform the holiday testing. All pinholes and/or holidays shall be marked and repaired in accordance with the manufacturer's printed recommendations and retested. No pinholes or other irregularities will be permitted in the final coating.
- F. The contractor shall furnish, until final acceptance of coating and painting is accepted, inspection devices in good working condition for detection of holidays and measurement of dry film thickness of coating and paint. The Contractor shall also furnish U.S. Department of Commerce, National Bureau of Standards certified thickness calibration plates and/or plastic shims, depending upon the thickness gauge used, to test the accuracy of dry film thickness gauges and certified instrumentation to test the accuracy of holiday detectors. Dry film gauges and holiday detectors shall be made available for the Engineer's use at all times until final acceptance of application. Holiday detection devices shall be operated in the presence of the Engineer.
- G. Inspection for this project shall consist of 'hold point' inspections. The Engineer or his representative shall inspect the surface prior to abrasive blasting, after abrasive blasting but prior to application of coating materials, and between subsequent coats of material. Final inspection shall take place after all coatings are applied, but prior to placing the tank in service. Contractor will insure that sufficient rigging is in place so that the Engineer or his representative shall be able to conduct the required inspections.
- H. Warranty inspection shall be conducted during the eleventh month following acceptance of all coating and painting work. All defective work shall be repaired in accordance with this specification and to the satisfaction of the Engineer and/or Owner.
- I. Do not paint over nameplates, tagging, or other identification devices.
- J. Contractor shall hire a third-party to conduct the testing in presence of the Owner Engineer. See Section 13412 for additional information.

1.5 SAFETY AND HEALTH REQUIREMENTS

A. General

1. The Contractor shall comply with all regulations as established by the Occupational Safety and Health Act and other government authorities.
2. In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical bulletins and manuals, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working on or about the project site.

- B. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. In addition, workers engaged in or near the work during sandblasting shall wear eye and face protection devices and air purifying halfmask or mouthpiece respirators with appropriate filters. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation shall reduce the concentration of air contaminants to a degree a hazard does not exist. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protection devices.
- E. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the inspector.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.

1.6 PRODUCT DELIVERY, STORAGE & HANDLING

- A. All materials shall be brought to the jobsite in original sealed containers. They shall not be used until the Engineer has inspected the contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- B. All coatings and paints shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings and paints must be stored to conform with City, County, State and Federal safety codes for flammable coating or paint materials. At all times coatings and paints shall be protected from freezing.

PART 2 - MATERIALS

2.1 ACCEPTABLE MANUFACTURERS

- A. Materials specified are those that have been evaluated for the specific service. Products of the Tnemec Company, Inc. are listed to establish a standard of quality. Equivalent materials of other manufacturer's may be submitted on written approval of the Engineer. As part of the proof of equality, the Engineer will require at the cost of the Contractor, certified test reports from a nationally known, reputable and independent testing laboratory conducting comparative tests as directed by the Engineer between the product specified and the requested substitution.
- B. Requests for substitution shall include manufacturer's literature for each product giving name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified lab test reports showing results to equal the performance criteria of the products specified herein. In addition, a list of five projects shall be submitted in which each product has been used and rendered satisfactory service.
- C. All requests for product substitution shall be made at least 10 days prior to the bid date.
- D. Any material savings shall be passed to the owner in the form of a contract dollar reduction.

- E. Manufacturer's color charts shall be submitted to the Engineer at least 30 days prior to coating and/or paint application. General Contractor and Painting Contractor shall coordinate work so as to allow sufficient time (normally seven to ten days) for paint to be delivered to the job site.

2.2 GENERAL REQUIREMENTS

- A. All materials shall be lead-free as defined by the Consumer Product Safety Act, Part 1303.
- B. All zinc dust pigment contained in any zinc-rich material shall meet the requirements of ASTM D 520 Type III as regards zinc content and purity.
- C. All materials for the interior wetted portion of the tank shall meet the requirements of ANSI/NSF Standard 61 for potable water contact.
- D. All high gloss clear coat products shall incorporate the use of a fugitive dye to aid in the proper application and coverage of such coats.
- E. All catalyzed polyurethane products shall meet the minimum requirements of SSPC Paint Specification Number 36, Level 3 Performance Level.

2.3 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

2.4 SHOP-APPLIED PRIMER – BOTH SIDES OF PLATE

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Anchor profile shall be primarily angular and irregular, as produced by a blend of grit and shot.
- C. Zinc-Rich Primer: Tnemec Series 94 Hydro-Zinc applied at 2.5 to 3.5 dry mils. Thin only with approved thinner, Tnemec 41-49 or 41-3 Thinner.

2.5 FIELD-APPLIED TANK INTERIOR COATING SYSTEMS

- A. Three Coat System:
 - 1. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
 - 2. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP10 Near White Metal Blast Cleaning and above.
 - 3. Coating System:

1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
2. Field 1st Coat: Tnemec Series N140-1255 Beige Pota-Pox applied at 6.0 to 8.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.
3. Field 2nd Coat: Tnemec Series N140-15BL Tank White Pota-Pox applied at 6.0 to 8.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.
4. Total dry film thickness shall be a minimum of 14.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
5. For cold weather applications, substitute Tnemec Series FC20 in lieu of Series 20.

2.6 FIELD-APPLIED TANK EXTERIOR COATING SYSTEMS

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP6 Commercial Blast Cleaning and above.
- C. Coating System:
 1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
 - a. 1st Field Coat: Tnemec Series 1075 -Color applied at 2.0 to 3.0 dry mils. Thin only with approved thinner. 41-39 for brush or roller.
 - b. 2nd Field Coat: Tnemec Series 700-Color Endura-Shield applied at 2.0 to 3.0 dry mils. Thin only with approved thinner, , 41-63 for brush or roller.
 2. Total dry film thickness shall be a minimum of 6.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
 3. The finish color of the exterior shall match the existing tank color.

PART 3 - EXECUTION

3.1 GENERAL

- A. All surface preparation, coating and painting shall conform to applicable standards of the Steel Structures Painting Council, NACE International and the manufacturer's printed instructions. Materials applied to the surface prior to the approval of the Engineer shall be removed and re-applied to the satisfaction of the Engineer at the expense of the contractor.
- B. All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be coordinated with the Engineer.
- C. The Contractor shall provide a supervisor at the work site during cleaning and application operations. The supervisor shall have the authority to sign and change orders, coordinate work and make decisions pertaining to the fulfillment of the contract.

- D. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the coating or paint must be removed by washing with clean rags dipped in an approved cleaning solvent and wiped dry with clean rags.
- E. Coating and painting systems include surface preparation, prime coating and finish coatings. Unless otherwise approved in writing by the Engineer, prime coating shall be field applied. Where prime coatings are shop applied, the Contractor shall instruct suppliers to provide the prime coat compatible with the specified finish coat. Any off-site work which does not conform to this specification, is subjected to damage during transportation, construction or installation shall be thoroughly cleaned and touched-up in the field as directed by the Engineer. The Contractor shall use repair procedures which insure the complete protection of all adjacent primer. The specified repair method and equipment may include wirebrushing, hand or power tool cleaning, or dry air blast cleaning. In order to prevent injury to surrounding painted surfaces, blast cleaning may require use of lower air pressure, smaller nozzle and/or abrasive blast particles, or shorter blast nozzle distances from surface shielding and masking. If damage is too extensive or uneconomical to touch-up, the entire item shall be blasted and then coated or painted as directed by the Engineer.
- F. The Contractor's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Contractor's equipment shall be subject to approval of the Engineer.
- G. Application of the first coat shall follow immediately after surface preparation and cleaning and stripe coat, if applicable, before rust bloom occurs or the same day, whichever is less. Any cleaned areas not receiving first coat within this period shall be recleaned prior to application of first coat. Use of dehumidification equipment shall be first reviewed by the Engineer and coatings manufacturer prior to deviating from this provision.
- H. Prior to assembly, all surfaces made inaccessible after assembly shall be prepared as specified herein and shall receive the coating or paint system specified.

3.2 SURFACE PREPARATION

- A. The latest revision of the following surface preparation specifications of the Steel Structures Painting Council (SSPC) shall form a part of this specification. The summaries listed below are for informational purposes; consult the actual SSPC specification for full detail.
 - 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods which involve a solvent or cleaning action.
 - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mil scale and other detrimental foreign matter to a degree specified by hand chipping, scraping, sanding and wirebrushing
 - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mil scale and other detrimental foreign matter by power wirebrushing, power impact tools or power sanders.
 - 4. White Metal Blast Cleaning (SSPC-SP5/NACE No. 1): Air blast cleaning to a gray-white uniform metallic color until each element of surface area is free of all visible residues.
 - 5. Commercial Blast Cleaning (SSPC-SP6 NACE No. 3): Air blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 - 6. Brush-Off Blast Cleaning (SSPC-SP7 NACE No. 4): Air blast cleaning to remove loose rust, loose mil scale and other detrimental foreign matter to a degree specified.
 - 7. Near-White Metal Blast Cleaning (SSPC-SP10 NACE No. 2): Air blast cleaning until at least 95% of each element of surface area is free of all visible residues.

8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Differs from SSPC-SP3 in that it requires more thorough cleaning and a surface profile not less than 1 mil.
- B. Slag, weld metal accumulation and spatters not removed by the Fabricator, Erector or Installer shall be removed by chipping and/or grinding. All sharp edges shall be peened, ground or otherwise blunted as required by the Engineer. All grinding and finishing of welds, edges, etc. shall be performed prior to solvent cleaning and abrasive blasting. Welds shall be prepared as per NACE Standard RP0178 for all interior and exterior surfaces:
 1. Butt Welds: Shall be ground smooth and free of all defects, designation "D".
 2. Lap Welds: Shall be ground smooth and blended., designation "D".
 3. Fillet Welded Tee Joint: Shall be ground smooth and blended, designation "D"
- C. All recycled abrasives used in automated shop blasting shall be clean as per SSPC-AB2 "Cleanliness of Recycled Ferrous Metallic Abrasives". All shop blasting utilizing centrifugal-type equipment shall utilize a blend of shot and grit (maximum of 80% shot). In no case shall steel shot alone be permitted. After blast cleaning, the surface of the steel shall appear angular and irregular. Should the surface appear peened or undulating, the steel shall be reblasted to achieve the correct appearance.
- D. All welds shall be neutralized with a suitable chemical compatible with the specified coating or paint.
- E. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Blast nozzles shall be venturi-type nozzles with a minimum pressure at the nozzle of 90 psi.
- F. Particle size of abrasives used in blast cleaning shall be that which will produce a 1.5 - 2.5 mil (37.5 microns - 65.0 microns) surface profile or in accordance with recommendations of the manufacturer of the specified coating or paint system to be applied. If the profile of the blasted steel exceeds the profile specified above, the Contractor shall be required to do one or both of the following:
 1. Reblast the surface using a finer aggregate in order to produce the required profile.
 2. Apply a thicker prime coat, if possible given the limitations of the products being applied, in order to adequately cover the blast profile
- G. All shop-primed surfaces shall receive a uniform and thorough sweep-blast as per SSPC-SP7/NACE No. 4. All bare metal areas shall be abrasive blasted as per SSPC-SP10/NACE No. 2 Near-White Blast Cleaned for interior surfaces and SSPC-SP6/NACE No. 3 Commercial Blast Cleaning for all exterior surfaces.
- H. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants that would interfere with adhesion of coating or paint and shall not be reused unless specifically approved in writing by the Engineer.
- I. During blast cleaning operations, caution shall be exercised to insure that existing coatings or paint are not exposed to abrasion from blast cleaning.
- J. The Contractor shall keep the area of his work and the surrounding environment in a clean condition. He shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the accomplishment of the work, the operation of the existing facilities or to the surrounding environment.
- K. Blast cleaned surfaces shall be cleaned prior to application of specified coatings or paint. All surfaces shall be free of dust, dirt, and other residue resulting from the abrasive blasting operation. No coatings or paint shall be applied over damp or moist surfaces.
- L. Specific Surface Preparation: Surface preparation for the specific system shall be as noted in Sections 2.04, 2.05, and 2.06.

3.3 APPLICATION, GENERAL

- A. Coating and paint application shall conform to the requirements of the Steel Structure Painting Council Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting".
- B. Thinning shall be permitted only as recommended by the manufacturer and approved by the Engineer, and utilizing the thinners stated in Sections 2.04, 2.05, and 2.06..
- C. Each application of coating or paint shall be applied evenly, free of brush marks, sags, runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coatings and paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.
- D. Protective coverings or drop cloths shall be used to protect floors, fixtures and equipment. Care shall be exercised to prevent coatings or paints from being spattered onto surfaces which are not to be coated or painted. Report to the Engineer surfaces from which materials cannot be satisfactorily removed.
- E. When two coats of coating or paint are specified, where possible, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.
- F. Film thickness per coat as specified in Sections 2.04, 2.05, 2.06, and 2.07 are the minimum required. If roller application is deemed necessary, the Contractor shall apply additional coats as to achieve the specified thickness.
- G. All material shall be as specified.

3.4 COATING SYSTEMS APPLICATION

- A. After completion of surface preparation as specified for the specific system, materials shall be applied as noted in Sections 2.04, 2.05, 2.06, and 2.07.
- B. Care shall be taken so as to eliminate overspray and dry spray on the tank interior. Where such conditions are encountered, the surface shall be cleaned of all over spray and dry spray prior to the application of the succeeding coat.

3.5 DISINFECTION

- A. Disinfection shall be completed as described in Specification 13412. Disinfection of interior surfaces shall be performed in the presence of the Engineer in accordance with all the requirements of applicable AWWA Standards and regulatory agencies.
- B. Disinfection shall be performed after protective coatings have been applied to the interior surfaces and allowed to thoroughly cure.
- C. Prior to disinfecting, the complete interior shall be washed down with clean water and thoroughly flushed out.
- D. All interior surfaces shall be thoroughly washed with a solution having a minimum chlorine content of 50 PPM. Chlorine solution accumulated on the bottom shall be drained to waste. Rinsing with clean water is not required.

3.6 SOLVENT VAPOR REMOVAL

- A. All solvent vapors shall be completely removed by suction-type exhaust fans and blowers before placing tank in operating service.

- B. All solvent vapors will be exhausted both during and after coating application at a minimum rate of one air change every four hours to allow the proper curing of the coating material. High rates of production may require an increase in ventilation.
- C. Ventilation shall be continued until such time as the coating has reached "full cure" as specified by the coating manufacturer.

3. 7 CLEAN UP

- A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Engineer. Coating or paint spots or oil stains upon adjacent surfaces shall be removed and the jobsite cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired or refinished to the satisfaction of the Engineer at no cost to the Owner.

END OF SPECIFICATION 09800

SECTION 09800
STEEL WATER TANK PAINTING

PART 1 - GENERAL

1.1 SCOPE

- A. Work covered within this section includes the cleaning, painting and disinfection of all interior and exterior surfaces of the elevated water storage tank, including ladders, vents, balcony, overflow pipe and handrails.
- B. The Contractor shall paint the City of Flowery Branch Logo as shown on the plans on two sides of the tank, with exact side to be field determined. The City will provide the actual color descriptions to the contractor.
- C. It is the Contractor's responsibility to assure that surrounding buildings, vehicles and structures are not damaged or sprayed with paint, regardless of the environmental conditions. If buildings, vehicles or structures are damaged due to the painting, it is the Contractor's responsibility repair and/or replace the items damaged.

1.2 SUBMITTALS

- A. Submit to the Owner's Representative, in accordance with Division 1, all copies of materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Product Data: Submit manufacturer's descriptive data fully describing each product including solids by volume and un-thinned volatile organic compounds (VOC)'s. Include manufacturer's recommendations for mixing, thinning, and curing.
 - 2. Certificates: Submit manufacturers certified test reports confirming compliance with the specified performance requirements under Paragraph 1.3.
 - 3. Colors: Submit 4 color charts for color selection.
 - 4. Lead Content: Submit manufacturer's certification that products to be supplied are lead free (less than 600 ppm lead).

1.3 REFERENCE STANDARDS

- A. American Water Works Association
 - 1. AWWA D100 – Standard for Welded Steel Tanks for Water Storage
 - 2. AWWA D102 – Standard for Painting Steel Water Storage Tanks
 - 3. AWWA C652 – Standard for Disinfection of Water Storage Facilities
- B. National Sanitation Foundation
 - 1. NSF 61 – Material in Contact with Potable Water
- C. Steel Structures Painting Council Manual – Volume 1 – Good Painting Practice
- D. Steel Structures Painting Council Manual – Volume 2 – Systems and Specifications
- E. Federal Test Methods for the Performance of Paints and Coatings.

1.4 QUALITY ASSURANCE

A. Contractor Qualifications

1. The Contractor shall have three years practical experience and successful history in the Application of specified product to surfaces of steel water tanks. Upon request, he shall substantiate this requirement by furnishing a list of references and job completions.
2. The Contractor shall submit with his bid a written statement by the coatings manufacturer stating that the Contractor is familiar with the materials specified and has workers capable of performing the work specified herein.
3. The personnel performing the work shall be knowledgeable and have the required experience and skill to adequately perform the work for this project, in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting".

B. General

1. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Engineer.
2. Materials for each coating system shall be those of a single manufacturer. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.
3. All prime, intermediate and finish coating materials shall be applied in different color shades.
4. The Contractor shall obtain the approval of the Engineer of the steel surface preparation and of each coat of paint prior to applying succeeding coats. Such approval will not relieve the Contractor of the obligations stated within.
5. The Contractor shall record environmental conditions at the beginning of each daily operation, thirty minutes before painting begins and every hour during painting operations.

C. Surface Preparation

1. Surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces: SSPC-VIS 1-89", ASTM Designation D2200-95, "Pictorial Surface Preparation Standards for Painting Steel Surfaces", ASTM D 4417-91, Method A and/or Method C "Field Measurement of Surface Profile of Blast Cleaned Steel" or NACE Standard RP0287-87 "Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape". In all cases the written standard shall take precedence over the visual standard. In addition, NACE Standard RP0178-91, "Fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Service", along with the Visual Comparator, shall be used to verify the surface preparation of welds.

D. No coating or paint shall be applied when:

1. The surrounding air temperature or the temperature of the surface to be coated or painted is below the minimum surface temperature for the products specified herein.
2. Rain, snow, fog or mist is present.
3. The surface temperature is less than 5F above the dew point,
4. The air temperature is expected to drop below the minimum temperature for the products specified within six hours after application of coating. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables.

5. If any of the above conditions are prevalent, coating or painting shall be delayed or postponed until conditions are favorable. The day's coating or painting shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.
- E. Thickness and Holiday Checking:
 1. Thickness of coatings and paint shall be checked with a non-destructive, magnetic-type thickness gauge, as per SSPC-PA 2 "Measurement of Dry Film Thickness with Magnetic Gages". References in PA 2 which allow 80% of the minimum thickness specified are not acceptable. Use an instrument such as a Tooke Gauge if a destructive test is deemed necessary by the Engineer.
 2. The integrity of interior coated surfaces shall be checked with a low voltage holiday detector in accordance with NACE Standard RP0188. Non-destructive holiday detector shall not exceed 67.5 volts, nor shall destructive holiday detector exceed the voltage recommended by the manufacturer of the coating system. A solution of 1 ounce non-sudsing type wetting agent, such as Kodak Photo-Flo, and 1 gallon of tap water shall be used to perform the holiday testing. All pinholes and/or holidays shall be marked and repaired in accordance with the manufacturer's printed recommendations and retested. No pinholes or other irregularities will be permitted in the final coating.
- F. The contractor shall furnish, until final acceptance of coating and painting is accepted, inspection devices in good working condition for detection of holidays and measurement of dry film thickness of coating and paint. The Contractor shall also furnish U.S. Department of Commerce, National Bureau of Standards certified thickness calibration plates and/or plastic shims, depending upon the thickness gauge used, to test the accuracy of dry film thickness gauges and certified instrumentation to test the accuracy of holiday detectors. Dry film gauges and holiday detectors shall be made available for the Engineer's use at all times until final acceptance of application. Holiday detection devices shall be operated in the presence of the Engineer.
- G. Inspection for this project shall consist of 'hold point' inspections. The Engineer or his representative shall inspect the surface prior to abrasive blasting, after abrasive blasting but prior to application of coating materials, and between subsequent coats of material. Final inspection shall take place after all coatings are applied, but prior to placing the tank in service. Contractor will insure that sufficient rigging is in place so that the Engineer or his representative shall be able to conduct the required inspections.
- H. Warranty inspection shall be conducted during the eleventh month following acceptance of all coating and painting work. All defective work shall be repaired in accordance with this specification and to the satisfaction of the Engineer and/or Owner.
- I. Do not paint over nameplates, tagging, or other identification devices.
- J. Contractor shall hire a third-party to conduct the testing in presence of the Owner Engineer. See Section 13412 for additional information.

1.5 SAFETY AND HEALTH REQUIREMENTS

A. General

1. The Contractor shall comply with all regulations as established by the Occupational Safety and Health Act and other government authorities.
2. In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical bulletins and manuals, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working on or about the project site.

- B. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. In addition, workers engaged in or near the work during sandblasting shall wear eye and face protection devices and air purifying halfmask or mouthpiece respirators with appropriate filters. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation shall reduce the concentration of air contaminants to a degree a hazard does not exist. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protection devices.
- E. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the inspector.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.

1.6 PRODUCT DELIVERY, STORAGE & HANDLING

- A. All materials shall be brought to the jobsite in original sealed containers. They shall not be used until the Engineer has inspected the contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- B. All coatings and paints shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings and paints must be stored to conform with City, County, State and Federal safety codes for flammable coating or paint materials. At all times coatings and paints shall be protected from freezing.

PART 2 - MATERIALS

2.1 ACCEPTABLE MANUFACTURERS

- A. Materials specified are those that have been evaluated for the specific service. Products of the Tnemec Company, Inc. are listed to establish a standard of quality. Equivalent materials of other manufacturer's may be submitted on written approval of the Engineer. As part of the proof of equality, the Engineer will require at the cost of the Contractor, certified test reports from a nationally known, reputable and independent testing laboratory conducting comparative tests as directed by the Engineer between the product specified and the requested substitution.
- B. Requests for substitution shall include manufacturer's literature for each product giving name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified lab test reports showing results to equal the performance criteria of the products specified herein. In addition, a list of five projects shall be submitted in which each product has been used and rendered satisfactory service.
- C. All requests for product substitution shall be made at least 10 days prior to the bid date.
- D. Any material savings shall be passed to the owner in the form of a contract dollar reduction.

- E. Manufacturer's color charts shall be submitted to the Engineer at least 30 days prior to coating and/or paint application. General Contractor and Painting Contractor shall coordinate work so as to allow sufficient time (normally seven to ten days) for paint to be delivered to the job site.

2.2 GENERAL REQUIREMENTS

- A. All materials shall be lead-free as defined by the Consumer Product Safety Act, Part 1303.
- B. All zinc dust pigment contained in any zinc-rich material shall meet the requirements of ASTM D 520 Type III as regards zinc content and purity.
- C. All materials for the interior wetted portion of the tank shall meet the requirements of ANSI/NSF Standard 61 for potable water contact.
- D. All high gloss clear coat products shall incorporate the use of a fugitive dye to aid in the proper application and coverage of such coats.
- E. All catalyzed polyurethane products shall meet the minimum requirements of SSPC Paint Specification Number 36, Level 3 Performance Level.

2.3 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

2.4 SHOP-APPLIED PRIMER – BOTH SIDES OF PLATE

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Anchor profile shall be primarily angular and irregular, as produced by a blend of grit and shot.
- C. Zinc-Rich Primer: Tnemec Series 94 Hydro-Zinc applied at 2.5 to 3.5 dry mils. Thin only with approved thinner, Tnemec 41-49 or 41-3 Thinner.

2.5 FIELD-APPLIED TANK INTERIOR COATING SYSTEMS

- A. Three Coat System:
 - 1. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
 - 2. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP10 Near White Metal Blast Cleaning and above.
 - 3. Coating System:

1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
2. Field 1st Coat: Tnemec Series N140-1255 Beige Pota-Pox applied at 6.0 to 8.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.
3. Field 2nd Coat: Tnemec Series N140-15BL Tank White Pota-Pox applied at 6.0 to 8.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.
4. Total dry film thickness shall be a minimum of 14.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
5. For cold weather applications, substitute Tnemec Series FC20 in lieu of Series 20.

2.6 FIELD-APPLIED TANK EXTERIOR COATING SYSTEMS

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP6 Commercial Blast Cleaning and above.
- C. Coating System:
 1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
 - a. 1st Field Coat: Tnemec Series 1075 -Color applied at 2.0 to 3.0 dry mils. Thin only with approved thinner. 41-39 for brush or roller.
 - b. 2nd Field Coat: Tnemec Series 700-Color Endura-Shield applied at 2.0 to 3.0 dry mils. Thin only with approved thinner, , 41-63 for brush or roller.
 2. Total dry film thickness shall be a minimum of 6.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
 3. The finish color of the exterior shall match the existing tank color.

PART 3 - EXECUTION

3.1 GENERAL

- A. All surface preparation, coating and painting shall conform to applicable standards of the Steel Structures Painting Council, NACE International and the manufacturer's printed instructions. Materials applied to the surface prior to the approval of the Engineer shall be removed and re-applied to the satisfaction of the Engineer at the expense of the contractor.
- B. All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be coordinated with the Engineer.
- C. The Contractor shall provide a supervisor at the work site during cleaning and application operations. The supervisor shall have the authority to sign and change orders, coordinate work and make decisions pertaining to the fulfillment of the contract.

- D. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the coating or paint must be removed by washing with clean rags dipped in an approved cleaning solvent and wiped dry with clean rags.
- E. Coating and painting systems include surface preparation, prime coating and finish coatings. Unless otherwise approved in writing by the Engineer, prime coating shall be field applied. Where prime coatings are shop applied, the Contractor shall instruct suppliers to provide the prime coat compatible with the specified finish coat. Any off-site work which does not conform to this specification, is subjected to damage during transportation, construction or installation shall be thoroughly cleaned and touched-up in the field as directed by the Engineer. The Contractor shall use repair procedures which insure the complete protection of all adjacent primer. The specified repair method and equipment may include wirebrushing, hand or power tool cleaning, or dry air blast cleaning. In order to prevent injury to surrounding painted surfaces, blast cleaning may require use of lower air pressure, smaller nozzle and/or abrasive blast particles, or shorter blast nozzle distances from surface shielding and masking. If damage is too extensive or uneconomical to touch-up, the entire item shall be blasted and then coated or painted as directed by the Engineer.
- F. The Contractor's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Contractor's equipment shall be subject to approval of the Engineer.
- G. Application of the first coat shall follow immediately after surface preparation and cleaning and stripe coat, if applicable, before rust bloom occurs or the same day, whichever is less. Any cleaned areas not receiving first coat within this period shall be recleaned prior to application of first coat. Use of dehumidification equipment shall be first reviewed by the Engineer and coatings manufacturer prior to deviating from this provision.
- H. Prior to assembly, all surfaces made inaccessible after assembly shall be prepared as specified herein and shall receive the coating or paint system specified.

3.2 SURFACE PREPARATION

- A. The latest revision of the following surface preparation specifications of the Steel Structures Painting Council (SSPC) shall form a part of this specification. The summaries listed below are for informational purposes; consult the actual SSPC specification for full detail.
 - 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods which involve a solvent or cleaning action.
 - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mil scale and other detrimental foreign matter to a degree specified by hand chipping, scraping, sanding and wirebrushing
 - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mil scale and other detrimental foreign matter by power wirebrushing, power impact tools or power sanders.
 - 4. White Metal Blast Cleaning (SSPC-SP5/NACE No. 1): Air blast cleaning to a gray-white uniform metallic color until each element of surface area is free of all visible residues.
 - 5. Commercial Blast Cleaning (SSPC-SP6 NACE No. 3): Air blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 - 6. Brush-Off Blast Cleaning (SSPC-SP7 NACE No. 4): Air blast cleaning to remove loose rust, loose mil scale and other detrimental foreign matter to a degree specified.
 - 7. Near-White Metal Blast Cleaning (SSPC-SP10 NACE No. 2): Air blast cleaning until at least 95% of each element of surface area is free of all visible residues.

8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Differs from SSPC-SP3 in that it requires more thorough cleaning and a surface profile not less than 1 mil.
- B. Slag, weld metal accumulation and spatters not removed by the Fabricator, Erector or Installer shall be removed by chipping and/or grinding. All sharp edges shall be peened, ground or otherwise blunted as required by the Engineer. All grinding and finishing of welds, edges, etc. shall be performed prior to solvent cleaning and abrasive blasting. Welds shall be prepared as per NACE Standard RP0178 for all interior and exterior surfaces:
 1. Butt Welds: Shall be ground smooth and free of all defects, designation "D".
 2. Lap Welds: Shall be ground smooth and blended., designation "D".
 3. Fillet Welded Tee Joint: Shall be ground smooth and blended, designation "D"
- C. All recycled abrasives used in automated shop blasting shall be clean as per SSPC-AB2 "Cleanliness of Recycled Ferrous Metallic Abrasives". All shop blasting utilizing centrifugal-type equipment shall utilize a blend of shot and grit (maximum of 80% shot). In no case shall steel shot alone be permitted. After blast cleaning, the surface of the steel shall appear angular and irregular. Should the surface appear peened or undulating, the steel shall be reblasted to achieve the correct appearance.
- D. All welds shall be neutralized with a suitable chemical compatible with the specified coating or paint.
- E. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Blast nozzles shall be venturi-type nozzles with a minimum pressure at the nozzle of 90 psi.
- F. Particle size of abrasives used in blast cleaning shall be that which will produce a 1.5 - 2.5 mil (37.5 microns - 65.0 microns) surface profile or in accordance with recommendations of the manufacturer of the specified coating or paint system to be applied. If the profile of the blasted steel exceeds the profile specified above, the Contractor shall be required to do one or both of the following:
 1. Reblast the surface using a finer aggregate in order to produce the required profile.
 2. Apply a thicker prime coat, if possible given the limitations of the products being applied, in order to adequately cover the blast profile
- G. All shop-primed surfaces shall receive a uniform and thorough sweep-blast as per SSPC-SP7/NACE No. 4. All bare metal areas shall be abrasive blasted as per SSPC-SP10/NACE No. 2 Near-White Blast Cleaned for interior surfaces and SSPC-SP6/NACE No. 3 Commercial Blast Cleaning for all exterior surfaces.
- H. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants that would interfere with adhesion of coating or paint and shall not be reused unless specifically approved in writing by the Engineer.
- I. During blast cleaning operations, caution shall be exercised to insure that existing coatings or paint are not exposed to abrasion from blast cleaning.
- J. The Contractor shall keep the area of his work and the surrounding environment in a clean condition. He shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the accomplishment of the work, the operation of the existing facilities or to the surrounding environment.
- K. Blast cleaned surfaces shall be cleaned prior to application of specified coatings or paint. All surfaces shall be free of dust, dirt, and other residue resulting from the abrasive blasting operation. No coatings or paint shall be applied over damp or moist surfaces.
- L. Specific Surface Preparation: Surface preparation for the specific system shall be as noted in Sections 2.04, 2.05, and 2.06.

3.3 APPLICATION, GENERAL

- A. Coating and paint application shall conform to the requirements of the Steel Structure Painting Council Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting".
- B. Thinning shall be permitted only as recommended by the manufacturer and approved by the Engineer, and utilizing the thinners stated in Sections 2.04, 2.05, and 2.06..
- C. Each application of coating or paint shall be applied evenly, free of brush marks, sags, runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coatings and paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.
- D. Protective coverings or drop cloths shall be used to protect floors, fixtures and equipment. Care shall be exercised to prevent coatings or paints from being spattered onto surfaces which are not to be coated or painted. Report to the Engineer surfaces from which materials cannot be satisfactorily removed.
- E. When two coats of coating or paint are specified, where possible, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.
- F. Film thickness per coat as specified in Sections 2.04, 2.05, 2.06, and 2.07 are the minimum required. If roller application is deemed necessary, the Contractor shall apply additional coats as to achieve the specified thickness.
- G. All material shall be as specified.

3.4 COATING SYSTEMS APPLICATION

- A. After completion of surface preparation as specified for the specific system, materials shall be applied as noted in Sections 2.04, 2.05, 2.06, and 2.07.
- B. Care shall be taken so as to eliminate overspray and dry spray on the tank interior. Where such conditions are encountered, the surface shall be cleaned of all over spray and dry spray prior to the application of the succeeding coat.

3.5 DISINFECTION

- A. Disinfection shall be completed as described in Specification 13412. Disinfection of interior surfaces shall be performed in the presence of the Engineer in accordance with all the requirements of applicable AWWA Standards and regulatory agencies.
- B. Disinfection shall be performed after protective coatings have been applied to the interior surfaces and allowed to thoroughly cure.
- C. Prior to disinfecting, the complete interior shall be washed down with clean water and thoroughly flushed out.
- D. All interior surfaces shall be thoroughly washed with a solution having a minimum chlorine content of 50 PPM. Chlorine solution accumulated on the bottom shall be drained to waste. Rinsing with clean water is not required.

3.6 SOLVENT VAPOR REMOVAL

- A. All solvent vapors shall be completely removed by suction-type exhaust fans and blowers before placing tank in operating service.

- B. All solvent vapors will be exhausted both during and after coating application at a minimum rate of one air change every four hours to allow the proper curing of the coating material. High rates of production may require an increase in ventilation.
- C. Ventilation shall be continued until such time as the coating has reached "full cure" as specified by the coating manufacturer.

3. 7 CLEAN UP

- A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Engineer. Coating or paint spots or oil stains upon adjacent surfaces shall be removed and the jobsite cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired or refinished to the satisfaction of the Engineer at no cost to the Owner.

END OF SPECIFICATION 09800

SECTION 09902

PAINTING

PART 1 - GENERAL

1.1 WORK INCLUDED

Furnish all labor, materials, tools and scaffolding as required to paint or otherwise finish all exposed and submerged piping and valves; equipment; interior and exterior concrete block; structural steel and miscellaneous metals including bar joist; masonry walls; finished walls and ceilings; exposed concrete walls; and miscellaneous materials not factory finished and exposed to view both interior and exterior. Paint all interior and exterior wall except the interior walls for a water holding structures.

1.2 RELATED WORK

A. Steel Water Tank Painting Section 09800.

1.3 QUALITY ASSURANCE

- A. Work shall be performed by skilled applicators thoroughly trained in necessary crafts and completely familiar with specific requirements and methods specified herein.
- B. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.
- C. Materials for each coating system shall be those of a single manufacturer.
- D. Paint systems for field-applied finish coats shall be compatible with shop-applied primers.

1.4 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)
- B. Federal Test Methods for the Performance of Paints and Coatings.
- C. Steel Structures Painting Council (SSPC)
- D. National Sanitation Foundation (NSF)
- E. Occupational Safety and Health Act (OSHA)

1.5 SUBMITTALS

- A. Product Data: Submit manufacturer's descriptive data fully describing each product including solids by volume and unthinned volatile organic compounds (VOC)'s. Include manufacturer's recommendations for mixing, thinning, and curing.
- B. Certificates: Submit manufacturer's certified test reports confirming compliance with the specified performance requirements under Paragraph 2.3.
- C. Colors: Submit 4 color charts for color selection.
- D. Lead Content: Submit manufacturers certification that products to be supplied are lead free (less than 600 ppm lead).
- E. Submit 2 copies of the Material Data Safety for each type of paint.

1.6 PRODUCT DELIVERY, STORAGE, HANDLING

- A. Deliver materials in factory-sealed containers with manufacturer's labels intact and legible.
- B. Store materials in protected area at a temperature between 35 degrees F. and 110 degrees F.

1.7 JOB CONDITIONS

- A. Apply coatings only under the following prevailing conditions:
 - 1. The air and surface to be painted temperatures are not below 40 F. or above 120 F.
 - 2. Relative humidity is not above 85 percent and the surface to be painted temperature is at least 5 degrees Fahrenheit above the dew point.
- B. Protect all surfaces not to be coated.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Products specified herein are manufactured by TNE MEC Company Inc., Kansas City, Missouri and are specified for identification of paint types, and as standards of quality, not necessarily as brand preference.
- B. Equivalent materials of other manufacturers may be submitted for approval. Pre-approved manufacturers not listed in the paint schedule are: Carboline Coatings Company, St. Louis, MO.; Sherwin Williams Company, Orlando, FL.; Ameron Protective Coating, Brea, CA., and Induron. All alternate coatings must be the same generic type as the coatings specified.

2.2 MATERIALS

- A. Materials shall be first line products of the manufacturer used. The manufacturer's catalog numbers are only for the purpose of identifying the item. Suppliers shall be as listed herein or an alternate approved by the Engineer.
- B. Unless otherwise specified, paints to be used for final coats shall be available in a full range of colors and shades, 15 different colors minimum.

2.3 REQUIREMENTS

- A. Coatings in contact with potable water shall be NSF certified.
- B. Materials shall be first line products of the manufacturer used. The manufacturer's catalog numbers are only for the purpose of identifying the item. Suppliers shall be as listed herein or an alternate approved by the Engineer.
- C. Bidders desiring to use coatings other than those specified shall submit their proposal in writing to the Engineer for consideration. Substitutions which decrease the film thickness, number of coats applied, change the generic type of coating, or fail to meet the performance criteria of the specified materials will not be approved. Prime and finish coats of all surfaces shall be furnished by the same manufacturer.
- D. Requests for substitutions shall include manufacturer's literature for each product giving the name, generic type, descriptive information, and evidence of satisfactory past performance.
- E. Primers and Paints containing lead or chromates may not be used.
- F. Where concrete block is to be painted, the contractor shall first submit two block samples painted with the specified blockfiller and finish coats. The Engineer shall approve or reject the samples. If the samples are rejected the Engineer shall indicate the reasons for rejection and the contractor shall make corrections in his application method and submit a new sample. Once accepted the samples will become reference standards by which all block must be painted.

2.4 PAINT SCHEDULE

- A. Interior and Exterior Ductile Iron Pipe and Fittings Non-submerged.
 - 1st Coat Tnemec: Series 66, 1 coat 3.0-5.0 mils.
 - 2nd Coat Tnemec: Series 66, 1 coat 3.0-5.0 mils.
 - 3rd Coat Tnemec: Acrylic Polyurethane, 1 coat 2.0-3.0 mils.

Total Paint system 8.0-13.0 mils.

B. Submerged Service Ductile Iron Pipe and Fittings

1st Coat Tnemec: Series 69 High Build Epoxoline , 1 coat 4.0-6.0 mils.

2nd Coat Tnemec: Series 69, 1 coat 4.0-6.0 mils.

Total Paint system 8.0-12.0 mils.

C. Exterior Exposed Structural Steel, Steel Pipe, Equipment, and Miscellaneous metals.

1. Non-Submerged

1st Coat Tnemec: Series 66 HiBuild Epoxoline 4.0-6.0 mils. DFT

2nd Coat Tnemec: Series 75 Polyurethane, 1 Coat 2.0-3.0 mils. DFT

Total System 6.0 to 9.0 mils DFT

2. Submerged

1st Coat Tnemec: Series 66 HiBuild Epoxoline 3.0-5.0 mils. DFT

2nd Coat Tnemec: Series 66 HiBuild Epoxoline 4.0-6.0 mils. DFT

Total System 8.0 to 12.0 mils DFT

2.05.FINISH APPEARANCE

Paint finishes must be uniform in color, texture, and general appearance. No additional compensation will be made for extra coats required to achieve the required DFT mil thickness, a uniform color, or a uniform appearance.

2.06 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

PART 3 - EXECUTION

3.1 PRE-WORK INSPECTION

- A. Examine surfaces to be coated and report conditions that would adversely affect appearance or performance of coating systems and which cannot be put into an acceptable condition by preparatory work specified in Paragraph 3.02.
- B. Do not proceed with surface preparation and application until surface is acceptable or authorization to proceed is given by the Engineer.
- C. Dry film thicknesses of shop-primed equipment will be taken and logged so as to avoid any questions once finish coats are applied.

3.2 SURFACE PREPARATION

- A. General
 - 1. Verify that all surfaces to be coated are dry, clean and free of dust, rust, dirt, oil, grease or other contaminants that would adversely affect the performance of the coatings.
 - 2. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed.

3. Particle size of abrasive used in blast cleaning shall be that which will produce a 1 1/2 - 2 mil (37.5 microns - 50.0 microns) surface profile.
4. Abrasive used in blast cleaning operations shall be new, washed, graded, low silica, and free of contaminants that would interfere with adhesion of coatings and shall not be reused unless specifically approved by the engineer. Copper slag is not allowed.
5. During blast cleaning operations, caution shall be taken to insure that existing coatings are not exposed to abrasion or contamination from blast cleaning.

B. Ferrous Metal - Non-Immersion

Steel Structures Painting Council - Commercial Blast Cleaning (SSPC-SP6).

C. Ferrous Metal - Immersion

1. Steel Structures Painting Council - Near White Blast Cleaning (SSPC-SP10).
2. Slag and weld metal accumulation and spatters not removed by the fabricator, erector or installer shall be removed by chipping and grinding. Weld seams and sharp edges shall be peened or ground as required by the Engineer.

D. Galvanized Metal

Steel Structures Painting Council - Solvent Cleaning (SSPC-SP1).

E. Ductile Iron Pipe

Surface should be clean, dry and free of asphaltic coating.

3.3 APPLICATION

- A. Materials shall be mixed, thinned and applied according to the manufacturer's latest printed instructions.
- B. All weld seams shall receive a brush coat of the specified product thinned, prior to application of the first complete coat.
- C. Touch-up all areas of damages shop primer prior to application of first complete coat.
- D. Make finish coats smooth, uniform in thickness and color, and free of brush marks, laps, runs, dry spray, overspray and skipped or missed areas.

3.4 INSPECTION

- A. Request acceptance of surface preparation by the Engineer prior to applying the first coat.
- B. Request acceptance of each coat before applying next coat.
- C. Correct work that is not acceptable under the requirements of this contract, and request re-inspection.

3.5 CLEANING

- A. Remove paint spatters from adjoining surfaces not scheduled to be painted.
- B. Repair damage to coatings or surfaces caused by cleaning operations.
- C. Remove debris from job site and leave storage areas clean.

3.6 PAINTING SCHEDULE

A. Proposed Construction

All new construction and equipment be painted, unless otherwise indicated. Colors shall be as selected by the Owner.

Infratec Consultants, Inc.

The following color scheme shall be used on all piping. The color of piping not listed below shall be selected from the color chart supplied by the manufacturer.

Potable Water

Dark Blue

End of Section

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SECTION 13412
ELEVATED STORAGE TANK 1

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor shall be responsible for all labor, materials and equipment necessary for the design, fabrication, construction, painting, disinfection and testing of an elevated welded carbon steel water storage tank supported by a steel support pedestal, commonly referred to as a "Spheroid or Pedesphere".
- B. Design and construction of the elevated tank shall conform to all requirements of AWWA D100-latest edition Standard for Welded Carbon Steel Tanks for Water Storage, except as modified by the requirements of these contract documents.
- C. The Contractor shall obtain all necessary permits and licenses required for the construction of the elevated water tank.

1.2 SUBMITTALS

- A. Submit to the Owner's Consultant, in accordance with the Division 1, copies of all materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. A list of five similar elevated tanks constructed within the last ten years including the Owner, tank capacity and the Engineer.
 - 2. A foundation design drawing showing design and dimensions of the concrete and reinforcing steel. The drawings and calculations must be designed by and bear the stamp of a professional engineer registered in the State of Georgia.
 - 3. The Contractor shall provide Drawings and design calculations for the elevated steel tank. Drawings shall show the size and location of all structural components and reinforcement, the required strength and grade of all materials, and the size and arrangement of principle piping and equipment. The drawings and calculations shall bear the certification of a professional Engineer licensed in the State of Georgia. The design coefficients and resultant loads for snow, wind and seismic forces, and the methods of analysis shall be documented.
 - 4. OSHA approved climbing equipment.
 - 5. Tank accessories.
 - 6. Lightning protection.
- B. Test Reports
 - 1. Shop test results.
 - 2. Field pressure /leakage tests.
 - 3. Independent visual and x-ray seam reports.
- C. Certificates

1. Prior to shipment, submit a certified affidavit of compliance from the manufacturer that the tank has been manufactured in accordance with AWWA and ASTM standards and requirements specified herein.

1.3 REFERENCE STANDARDS

- A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.
- B. American Water Works Association (AWWA)
 1. AWWA D100-latest edition - Standard for Welded Steel Tanks for Water Storage.
 2. AWWA D102 - Standard for Painting Steel Water Storage Tanks.
 3. AWWA C652 - Standard for Disinfection of Water Storage Facilities.
- C. American Welding Society
- D. NSF (National Sanitation Foundation) 61 - Materials in contact with Potable Water.
- E. Steel Structures Painting Council Manual - Volume 1 - Good Painting Practice.
- F. Steel Structures Painting Council Manual - Volume 2 - Systems and Specifications.
- G. ACI 318 - Building Code Requirements for Reinforced Concrete
- H. ACI 301 – Standard Specification for Structural Concrete
- I. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.4 QUALITY ASSURANCE

- A. All products specified under this Section shall be standard products of proven ability as manufactured by competent organizations that are fully experienced, reputable and qualified in the manufacture of the products to be furnished. The products shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
- B. All products furnished under this Section shall be new and unused and shall be the standard products of manufacturers having a successful record of manufacturing and servicing the equipment specified herein for a minimum of five (5) years.
- C. Pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.
- D. The Owner's Consultant may also make inspection of products after delivery. Products shall be subject to rejection at any time due to failure to meet any of the Specification requirements, even though submittal data may have been accepted previously. Products rejected after delivery shall be marked for identification and shall be removed from the job site at once.

PART 2 – PRODUCTS

2.1 GENERAL

- A. The materials, design, fabrication, erection, welding, testing and inspection of the steel tank shall be in accordance AWWA D100-latest edition

- B. The tank foundation shall be designed in accordance with AWWA D100-latest edition and ACI 318.
- C. The elevated steel water tank shall consist of a pedisphere tank with the following characteristics:
 - 1. The design operating capacity of the storage tank will be 250,000 gallons.
 - 2. The capacity of the tank, low to high water level, shall be contained within a maximum operation range from 30 feet to 32 feet plus or minus 2.5 feet.
 - 3. The height of the tank, top of foundation to the high water level shall be 155 feet.
 - 4. The top of the foundation shall be at elevation 1190.0 feet-msl.
- D. The following factors shall be used for the design of seismic loads and shall be in accordance with AWWA D100-latest edition:
 - 1. Seismic Zone 2A
- E. Wind pressure shall be determined in accordance with AWWA D100-96 (latest edition), Section 3.1.4 for a 100 MPH wind velocity.
- F. Snow Load shall be determined in accordance with AWWA D100-96 (latest edition), Section 3.1.3 for 25 psf minimum loading.
- H. A geotechnical investigation has been conducted for this report and is included in Section 02010 of the specifications.
- G. The minimum thickness for any part of the structure shall be 3/16 inch for parts not in contact with water and ¼ inch for parts in contact with water, including the roof plates. All portions of the tank including the roof shall be of watertight construction.

2.2 TANK ACCESSORIES

- A. The following accessories shall be provided in accordance with these specifications. All items shall be in full conformity with the current applicable OSHA safety regulations and the operating requirements of the structure.
- B. Ladders
 - 1. Access ladders shall be included at the following locations:
 - a. The tower ladder shall extend from grade to upper platform and from upper platform to tank floor manhole. Upper platform to steel tank roof mounted on access tube interior.
 - b. Exterior of access tube to provide access from roof manhole to the tank floor.
 - 2. Ladder side rails shall be a minimum 3/8 inch by 2 inches with a 16 inch clear spacing. Rungs shall be not less than 3/4 inch, round or square, spaced at 12 inch centers. The surface of the rungs shall be knurled, dimpled or otherwise treated to minimize slipping. At platforms or landings, the ladder shall extend a minimum 4 feet above the platform. Ladders shall be secured to adjacent structures by brackets located at intervals not exceeding 10 feet. Brackets shall be of sufficient length to provide a minimum distance of 7 inches from the center of the rung to the nearest permanent object behind the ladder.
 - 3. Ladders shall be equipped with a fall arrest system meeting OSHA regulations. The system shall be supplied complete with a safety harness, locking mechanisms, lanyards

and accessories for two persons. The safety harness equipment shall be supplied at the start of the project and turned over to the Engineer.

C. Upper Platform

1. An upper platform shall be located at the top of the support pedestal to provide access from the pedestal ladder to the roof access ladder located on the interior of the access tube. Platform shall include a 24" x 36" access hatch with opening to allow ladder and safety device to continue 48" minimum above the platform floor.
2. A roof handrail shall be provided surrounding the roof manholes, vents, and other roof equipment. Handrail shall comply with OSHA requirements.

D. Roof Hatches

1. Provide two access hatches on the roof of the tank. One hatch shall be 30 inch diameter and allow access from the roof to the interior of the tank. The hatch will be hinged and equipped with a hasp for locking. The hatch cover shall have a 2 inch downward edge. The second hatch will be 24 inch diameter and flanged with a removable cover so constructed that an exhaust fan may be connected for ventilation during painting operations. The openings shall have a minimum 4 inch curb.
2. Provide one 30 inch diameter hinged access hatch on the access tube roof. The hatch cover shall have a 2 inch downward edge.

E. Tank Vent

1. The tank vent should be centrally located on the tank roof above the maximum weir crest elevation. The tank vent shall have an intake and relief capacity sufficiently large that excessive pressure or vacuum will not develop during maximum flow rate. The vent shall be designed, constructed and screened so as to prevent the ingress of wind driven debris, insects, birds and animals. The vent shall be designed to operate when frosted over or otherwise clogged. The screens or relief material shall not be damaged by the occurrence and shall return automatically to operating position after the blockage is cleared.

F. Tank Floor Manhole

1. A minimum 18 x 24 inch elliptical access manhole shall be provided in the tank bottom accessible from the upper platform or from a ladder that extends from the platform to the opening. The hatch shall open inward.

G. Pedestal Hatch

1. A 24" diameter manhole shall be located near the top of the pedestal for access to the exterior painter's rail located near the tank/pedestal interface. This opening shall be accessible from the upper pedestal platform.

H. Access Tube

1. A minimum 36" diameter access tube shall be provided for tanks with capacities of 150,000 gallons and less, or 42" diameter access tube on tanks with capacities 200,000 gallons and greater. The access tube will be provided from the top of the pedestal to the tank roof.

I. Rigging

1. Interior and exterior rigging devices shall be provided for painting, inspecting and maintaining the structure and accessories. A continuous bar or tee rail near the top of the exterior support structure shall be provided. The rail may be attached to the support column or steel tank. A painter's rail attached to the roof, pipe couplings with plugs in the

roof or other attachments that provide complete access for painting of tank interior shall be furnished.

J. Piping

1. General

Exterior of pipes exposed to stored water shall be coated with tank interior wet system. Exterior of pipes in the pedestal and base cone shall be coated with tank interior dry system.

2. Inlet/Outlet Piping

Provide a 12 inch diameter standard weight steel inlet/outlet pipe that extends vertically from the base of the pedestal to the bottom of the tank. An expansion joint shall be provided in the vertical section of pipe. The expansion joint should be constructed to accommodate any differential movement caused by settlement or thermal expansion and contraction. Inlet/Outlet pipe shall not extend above the LWL.

3. Overflow

The overflow pipe shall be designed to carry the maximum design flow rate of 350 GPM. The steel overflow pipe will be 8 inch in diameter and shall have a minimum wall thickness of 1/4". A suitable weir shall be provided with the crest at High Water Level. The overflow pipe shall extend down from the weir box through the tank, pedestal, and base cone. The overflow pipe shall penetrate the base cone wall approximately 1 to 2 feet above grade and discharge onto a concrete splash pad. The point of discharge shall have a 45 degree elbow and be equipped with a stainless steel screened end.

K. Interior Floor

1. A concrete slab-on-grade shall be provided inside the base cone. Isolation joints shall be provided at junctions with walls, columns, equipment or piping foundations.

L. Personnel Door

1. A 36" by 80" access door with a flush threshold shall be located in the base of the pedestal cone. A step over threshold is not acceptable. The door shall be fabricated from steel plate with adequate stiffening and specifically designed for use with the tank. The access door will be equipped with handle, drip cover and dead bolt lock. Commercial hollow metal doors and frames are not acceptable

M. Identification Plate

1. A tank identification plate shall be mounted on the tank riser pipe above the access manhole. The identification plate shall be corrosion resistant and contain the following information.
 - a. Tank Contractor
 - b. Contractor's project or file number
 - c. Tank capacity
 - d. Height to High Water Level
 - e. Date erected
 - f. Tank Owner

PART 3 - EXECUTION

3.1 GENERAL

- A. The erection of the steel tank shall comply with the requirements of Section 10 of AWWA D100-latest edition.
- B. All interior lap joints shall be sealed by means of continuous seal welding (not caulking).

3.2 WELDING

- A. All shop and field welding shall conform to AWS and AWWA D100-latest edition, Section 10. Before any welding is performed, the constructor shall make certain that the welders or welding operators have their credentials for acceptance.

3.3 FABRICATION

- A. All fabrication and shop assembly shall conform to the requirements of AWWA D100-latest edition, Section 9, Shop Fabrication.

3.4 ERECTION

- A. Plates subjected to stress by the weight or pressure of the contained liquid shall be assembled and welded in such a manner that the proper curvature of the plates in both directions is maintained. Plates shall be assembled and welded together by a procedure that will result in a minimum of distortion from weld shrinkage.

3.5 TESTING

- A. Testing for both shop and field welds shall be in accordance with AWWA D100-latest edition, Section 11, Inspection and Testing. All testing shall be performed prior to interior and exterior field painting. The testing shall be performed by an independent testing agency with all costs included in the Contractor's bid and paid by the Contractor. The Contractor shall have a third-party weld inspection performed including both at visual and a radiograph inspection per Section 11 of AWWA D100-latest edition.

- B. Paint Inspection and Testing

The Contractor shall have a third-party paint inspection and testing performed at times and locations in the presence of the Owner or Engineer. Before the primer coating is applied, verify that the required surface preparation parameters as outlined in AWWA D102-latest edition have been satisfied. The wet film thickness of each coat shall be measured during application. Before application of successive coats, the dry film thickness shall be measured for compliance. The dry film thickness of the total system shall be measured in accordance with SSPC-PA 2. The required number of measurements for conformance to a thickness specified shall conform to Section 8 and SSPC-PA 2 and shall be determined between the Contractor and Owner/Engineer prior to any painting activities. For inside coating systems, the coating on interior wet surfaces below the top capacity level shall be tested and identified in accordance with NACE SP0188. Locations where holiday are detected shall be retested after repair work has been completed. Results of quality control test and records shall be provided to the Owner or Engineer at the end of each testing period. An affidavit of Compliance shall be provided at the end of the project. First-anniversary inspection shall be conducted by the Contractor to determine whether the coating system is performing properly. All areas failing shall be repaired by the Contractor.

3.6 PAINTING

- A. Surface preparation and coating of all steel surfaces shall be in accordance with Section 09800 "Coating System for Steel Water Storage Tanks".

- B. The tank manufacturer shall include a two logos painted on the sides of the bowl consisting of "City of Flowery Branch" along with their "symbol". The Owner will furnish a jpeg of the compete logo and assign the sides for the logo during the shop drawing period. The Contractor shall submit logo painting details including actual size and methods for review.

3.7 DISINFECTION

- A. Upon testing and painting, the tank and all connecting piping shall be flushed and disinfected prior to being put into service. Disinfection shall be in accordance with AWWA C-652.
- B. Only potable water shall be used as the water supply during disinfection operations.
- C. The Contractor shall use either high-test calcium hypochlorite, sodium hypochlorite solution or liquid chlorine for disinfection. The Contractor shall notify the Engineer prior to disinfection of the storage facility on what form of chlorine shall be used.
- D. One of the following methods shall be used for disinfection of the elevated water tank. The Contractor shall notify the Engineer prior to disinfection which method of disinfection shall be used as outlined in AWWA C-652, Section 4.
 - 1. First Method: After the storage tank has been thoroughly dried, it shall be filled slowly to the overflow level with potable water to which enough chlorine is added to provide a free chlorine residual in the full facility of not less than 10mg/L at the end of the 24-hour period. After the 24-hour retention period, the highly chlorinated water in the storage tank shall be completely emptied (by applying a reducing agent to the wasted water to thoroughly neutralize the chlorine residual in the water), and then refilled with potable water. After refilling, samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 -3 -5, before the tank is placed in or restored to regular service.
 - 2. Second Method: The walls and bottoms of storage tanks shall be thoroughly cleaned to remove all dirt and loose material. A strong chlorine solution (at least 200mg/L) shall be applied to the surface of all parts of the storage facility, including the inlet and outlet piping, that would be in contact with water when the storage facility is full to the overflow elevation. The disinfected surfaces shall remain in contact with the strong chlorine solution for at least 30 minutes, after which potable water shall be admitted. After that, the highly chlorinated water in the tank shall be disposed in an acceptable manner, as stated above, and then refilled with potable water to its overflow level. After refilling, samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 - 3 – 5, before the tank is placed in or restored to regular service.
 - 3. Third Method: Water containing a minimum of 50mg/L chlorine shall be placed in the storage tank to such depth that, when the storage tank is filled with potable water to the overflow level and held full for a period of at least 24 hours, there will be a free chlorine residual of not be less than 2 mg/L. The full storage tank must be allowed to stand for 24 hours. All highly chlorinated water shall then be purged from the drain piping. Samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 – 3 5. The storage tank may be put into service without draining the remaining water in the tank.

3.8 CONCRETE FOUNDATION

- A. A Geotechnical investigation has been carried out at the site and a copy of the report is included with the Contract Documents. Recommendations for the foundation and allowable bearing capacities are defined in this report. The Owner shall retain the services of the Geotechnical consultant to verify the adequacy of the bearing stratum after the Contractor has carried out the excavation and before any concrete or reinforcement is placed. The concrete foundation shall be designed by the Contractor based upon the recommendations in the geotechnical report. The report must provide the allowable soil bearing pressure with appropriate factors of safety, the active and passive earth pressure coefficients, the angle of soils internal friction, its cohesion, unit weight and recommendations for bearing depth and backfill requirements.
- B. The foundation shall be designed and constructed to safely and permanently support the structure. The basis of the foundation construction shall be consistent with the soils investigation data included herein of these specifications. Appropriate changes to construction schedule and price will be negotiated if, during excavation, soil conditions are encountered which differ from those described in geotechnical report. The concrete foundation shall be constructed in accordance with ACI 301. Minimum concrete compressive strength shall be as specified in Section 03000 "Cast-In-Place Concrete".

3.8 PRODUCT GUARANTEE

- A. The tank Contractor shall guarantee its work for a period of three years from the substantial completion date defined in the contract documents to the extent that it will repair any defects caused by faulty design, workmanship or material furnished under the specifications.
- B. All guarantees obtained by the tank Contractor from the manufacturer or installer of paint, equipment or accessories not manufactured by tank Contractor shall be obtained for the benefit of the Purchaser.

END OF SECTION 13412

SECTION 15060
DUCTILE IRON PIPE AND FITTINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor shall furnish, install, test and place in satisfactory service all ductile iron pipe, ductile iron pipe fittings, wall pipes and sleeves, special fittings, gaskets, bolts and accessories and all comparable cast iron fittings at the locations specified, shown on the Drawings or as otherwise directed by the Owner's Consultant. The piping shown on the drawings is intended to define the general layout, configuration, routing, method of support, pipe size and pipe type. The drawings are not pipe construction or fabrication drawings. It is the Contractor's responsibility to develop the details necessary to construct all mechanical piping systems, to accommodate the specific equipment provided, and to provide and install all supports, spools, spacers, adapters, connectors, and other appurtenances for a complete and functional system as specified herein.

1.2 SUBMITTALS

- A. Submit to the Owner's Consultant, in accordance with the Division 1, copies of all materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Piping layout in full detail.
 - 2. Location and types of pipe restraints, thrust blocks, or other devices to prevent movement, vibration, and/or joint separation.
 - 3. Schedule of pipe, fittings, special castings, couplings, expansion joints, restrained joints, and other appurtenances.
 - 4. Product data on pipe fittings, couplings, harnesses, expansion joints, gaskets, fasteners, and other accessories.
 - 5. Brochures and technical data on coatings and linings and proposed method of application and field touch-up.
- B. Test Reports
 - 1. Shop test results.
 - 2. Field pressure /leakage tests.
- C. Certificates
 - 1. Prior to shipment, submit a certified affidavit of compliance from the manufacturer that the pipe, fittings, gaskets, linings, and exterior coatings have been manufactured in accordance with AWWA and ASTM standards and requirements specified herein.

1.3 REFERENCE STANDARDS

- A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.

- B. American Water Works Association (AWWA)
 - 1. AWWA C104 – Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
 - 2. AWWA C151 – Ductile-Iron Pipe, Centrifugally Cast, for Water and Other Liquids.
 - 3. AWWA C153 – Ductile-Iron Compact Fittings 3-in. through 64-in. (76-mm through 1,600-mm) for Water Service
 - 4. AWWA C600 – Installation of Ductile-Iron Water Mains and Their Appurtenances.
- C. American National Standards Institute (ANSI)
 - 1. ANSI A21.4 – Cement-Mortar Lining for Ductile-Iron and Gray –Iron Pipe and Fittings for Water.
 - 2. ANSI A21.11 – Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe Fittings.
 - 3. ANSI A21.50 – Thickness Design of Ductile-Iron Pipe.
 - 4. ANSI A21.51 – Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand Lined Molds, for Water and Other Liquids.
 - 5. ANSI A21.53 – Ductile-Iron Compact Fittings 3-in. through 12-in. for Water and Other Liquids.
 - 6. ANSI A16.1 – Cast Iron Pipe Flanges and Flanged Fittings.
 - 7. ANSI B16.21 – Non-Metallic Flat Gaskets for Pipe Flanges.
- D. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.4 QUALITY ASSURANCE

- A. All products specified under this Section shall be standard products of proven ability as manufactured by competent organizations that are fully experienced, reputable and qualified in the manufacture of the products to be furnished. The products shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
- B. All products furnished under this Section shall be new and unused and shall be the standard products of manufacturers having a successful record of manufacturing and servicing the equipment and systems specified herein for a minimum of five (5) years.
- C. Pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured. All pipe within this section shall be manufactured within the United States, fittings may be foreign or domestic.
- D. The Owner's Consultant may also make inspection of products after delivery. Products shall be subject to rejection at any time due to failure to meet any of the Specification requirements, even though submittal data may have been accepted previously. Products rejected after delivery shall be marked for identification and shall be removed from the job site at once.
- E. All pipe and fittings shall be permanently marked with the following information:
 - 1. Manufacturer.
 - 2. Date.

3. Size, Type, Class or Wall Thickness.
4. Standard to which produced (AWWA, ASTM, etc.)

1.5 DELIVERY, STORAGE AND HANDLING

- A. Reference is made to Division 1 for additional information.
- B. Packing and Shipping
 1. Care shall be taken in loading, transporting and unloading to prevent damage to the pipe, appurtenances, or coatings. The pipe shall not be dropped or skidded against each other. Lined pipe and fittings shall be handled from the outside. No forks, chains, straps, hooks, etc. shall be placed inside the pipe for lifting, positioning or laying.
 2. The interior of all pipe, fittings and other appurtenances shall be kept free from dirt or other foreign matter at all times.
- C. Storage and Protection
 1. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tier shall be kept off the ground on timbers, rails, or concrete. Stacking shall conform to manufacturers recommendations.
 2. Gaskets for mechanical and push-on joints to be stored shall be placed in a location out of direct sunlight. Gaskets shall not come in contact with petroleum products and be used on a first-in, first-out basis.

1.6 SHOP PAINTING

- A. Unless otherwise specified herein, all ductile iron pipe and fittings and cast iron fittings shall be cleaned and provided with a bituminous coating and cement lining applied at the factory for buried service or coated per Section 09902 for exposed piping to be painted.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Ductile iron pipe and fittings shall conform to the referenced standards and specifications. All ductile iron pipe and special fittings will be subject to inspection and approval by the Owner's Consultant after delivery. Broken, cracked, misshapen, imperfectly coated, or otherwise damaged or unsatisfactory pipe or fittings shall not be used.
- B. Unless otherwise shown on the Drawings or directed by the Owner's Consultant, Ductile iron pipe shall have a minimum pressure rating in accordance with Pressure class 350 for sizes 24 inches and less and shall conform to the requirements of AWWA C151.

2.2 DUCTILE IRON PIPE

- A. Design
 1. All water and wastewater pressure pipe shall be standard cement lined in accordance with ANSI A21.40 (AWWA C110) and sealed with an approved bituminous seal coat in accordance with ANSI A21.51 (AWWA C151). Interior service ductile iron pipe shall be coated with a paint primer. Piping inside water tanks shall be coated per 13412-5.

2. All wastewater and water applications shall utilize a plain rubber (Styrene Butadiene Copolymer) gasket unless noted otherwise.

B. Pipe Joints

1. Mechanical Joints

- a. Mechanical joints shall consist of a bolt joint of the stuffing box type as detailed in ANSI A21.10 and described in ANSI A21.11 (AWWA C111)
- b. Mechanical joints shall be thoroughly bolted in accordance with the manufacturer's recommendations with Tee Head Bolts and bolts of high strength, heat treated cast iron containing 0.50 copper or high strength low-alloy steel having a minimum yield point strength of 40,000 pounds per square inch and an ultimate tensile strength of 70,000 pounds per square inch.
- c. Gaskets, bolts and nuts shall conform to ANSI A21.11. Gasket material shall be of neoprene or rubber of such quality that they will not be damaged by the liquid or gases with which they will come in contact with.
- d. Glands shall be of high strength cast iron.

2. Flanged Joints

- a. Flanged joints shall conform to ANSI B16.1, Class125 and in accordance with Table 10.23 of ANSI A21.10
- b. Flanged joints shall be bolted with through stud or tap bolts of required size as directed. Bolts and nuts shall conform in dimensions to the American Standard heavy series. Nuts shall be hexagonal, cold pressed. After each joint has been made, all bolts heads and nuts shall be coated with 2 coats of heavy asphaltum or other approved coating.
- c. Gaskets of "Cranite," red rubber, or other approved quality shall be used in all flanged joints. Gaskets shall conform to the requirements of ANSI B16.21.
- d. Flanged ductile iron pipe approximately 12 inches or less in length shall have flanges cast solidly to the pipe barrel. Flanges on ductile iron pipe longer than 12 inches may be of the screw type. Pipe threads shall be of such length that with flanges screwed home; the end of the pipe shall project beyond the face of the flange. Flange pipe shall then be machined to give a flush finish to the pipe and the flange and surface shall be normal to the axis of the pipe. Ductile iron flanges shall be of such design that the flange neck completely covers the threaded portion of the pipe to protect the same against corrosion. Flange faces on cast iron fittings shall be coated with white lead immediately after they have been faced and drilled. All pipe with screw type flanges shall be assembled, faced and drilled at the point of manufacture, unless approved by the Owner's Consultant.
- b. Where tap or stud bolts are required, flanges shall be drilled and tapped accordingly.

3. Push-On-Joints

- a. Push-on-joints shall conform to ANSI A21.11. Details of the joint design shall be in accordance with the manufacturer's standard such as "Fastite." "Bell-Tite." Or "Tyton" joints.
- b. Gaskets shall be in accordance with ANSI A21.11 and shall be of such quality that they will not be damaged by the liquid or gases with they will come in contact with.

4. Restrained Joints

- a. Restrained joints shall meet all requirements of ANSI/AWWA C110/A21.10. Joints shall be pressure rated for a minimum of 250 psi. Restrained joints may be American "Flex- Ring" or "Fast-Grip", US Pipe "TR Flex" or "Field Lok", or MEGALUG as manufactured by "EBAA Iron, Inc" (Unless specifically called out for on the plans).

2.3 PIPE FITTINGS

- A. All fittings shall conform in every respect to ANSI A21.53, 3 inches through 64 inches for water services.
- B. Unless otherwise shown on the Drawings, directed or specified, all fittings shall have a minimum working pressure rating of 250 psi.
- C. In general, flanged fittings shall be ANSI pattern using short radius elbows. Design of all fittings, whether long or short pattern, shall be as indicated or dimensioned on the Drawings. Special fittings and ductile iron wall pipes and sleeves shall conform to the dimensions and details shown on the Drawings.
- D. All buried pipe fittings shall use mechanical joints unless otherwise shown on the Drawings.

2.4 PIPE COUPLINGS

- A. Pipe couplings shall be installed where shown on the Drawings, required for installation, or directed by the Owner's Consultant.
- B. Pipe couplings shall conform to requirements of the Division 15 of these specifications.

PART 3 - EXECUTION

3.1 PIPE LAYING AND INSTALLATION

- A. Excavation and backfilling of trenches shall conform to the requirements of Division 2.
- B. Installation of ductile iron pipe in underground pressure piping systems shall conform to the requirements of AWWA C600. Unless otherwise indicated on the Drawings, underground piping shall have a minimum cover of 48 inches or a minimum of 48 inches below the edge of pavement, whichever is lower. Permission must be granted by the Engineer to vary from this requirement. Trench widths must be no less than the pipe diameter plus 24 inches.
- C. Proper and suitable tools and equipment for the safe and convenient handling and laying of pipe shall be used; great care shall be taken to prevent pipe coatings or wrappings from being damaged, particularly the cement interior linings. All pipe shall be carefully examined for cracks and other defects, and no pipe or fittings shall be laid which are known to be defective. If pipe or fittings are cracked, broken or defective after being laid, they shall be removed and replaced with sound material, at no additional expense to the Owner. All pipe and fittings shall be thoroughly cleaned before being laid, and shall be kept clean until accepted in the completed work. Pipeline alignment and gradient shall be straight or shall follow true curves as near as is practicable.
- D. Excavation, cleaning, laying, jointing, and backfilling shall be kept up as closely as is possible so as to progress the work in a uniform workmanlike manner. In no case shall pipe be left in the trench overnight without completing the jointing. The completed pipeline shall not be left exposed in the trench unnecessarily; the Contractor shall backfill and compact the trench as

soon as is possible after laying and jointing is completed. Each day at the close of work, at all times when laying is not in progress, the exposed end of the pipeline in the trench shall be closed with an approved bulkhead of wood or metal. If at any time it becomes necessary to cover the end of an uncompleted pipeline with backfill, the end of that pipe shall be closed with a mechanical joint plug.

- E. The Contractor shall clean each joint of pipe while it is suspended before it is lowered into the trench. The Contractor shall keep exposed ends of pipe properly plugged during laying to prevent dirt and other materials from entering the line, and shall, before the system is accepted, thoroughly clean all times.
- F. Ductile iron pipe and fittings, indicated on the Drawings to be encased in concrete shall be encased in Class "B" concrete. Pipe and fittings to be encased in concrete shall be properly supported on pre-cast concrete saddles. All pipe passing through wall sleeves shall be caulked watertight with lead or a mechanical sealing device approved by the Owner's Consultant.
- G. Interior ductile iron piping systems shall be furnished and installed, complete, as indicated on the Drawings, as specified or as required for proper operation of equipment.
- H. Pipeline alignment and gradient shall be straight or shall follow true curves as near as is practicable.
- I. Sufficient couplings and flanged joints shall be provided to facilitate equipment installation and removal.
- J. All ductile iron pipe installed under buildings or basins shall be encased in Class B concrete. The size of the encasement concrete shall be a minimum of 6 inches larger than the outside diameter of the pipe.

3.2 JOINTING

A. Mechanical Joints

1. Successful operation of the mechanical specified requires that the spigot be centrally located in the bell and that adequate anchorage shall be provided where abrupt changes in direction and dead ends occur.
2. Surfaces with which the gasket comes in contact shall be brushed thoroughly with a wire brush just prior to assembly to remove all loose rust or foreign material which may be present and to provide clean surfaces which shall be brushed with a liberal amount of soapy water or other approved lubricant just prior to slipping the gasket over the spigot end and into the bell. Lubricant shall be brushed over the gasket prior to installation to remove loose dirt and lubricate the gasket as it is forced into its retaining space.
3. Joint bolts shall be tightened by the use of approved wrenches and to a tension recommended by the pipe manufacturer. When tightening bolts, it is essential that the gland be brought toward the pipe flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This may be done by partially tightening the bottom bolt first, then the top bolt, next the bolts at either side last, the remaining bolts. This cycle shall be repeated until all bolts are within the range of acceptable torques. If effective sealing is not attained at the maximum torque indicated above, the joint shall be disassembled and reassembled after thorough cleaning. Overstressing of bolts to compensate for poor installation shall not be permitted.
4. After installation, bolts and nuts in buried or submerged piping shall be given 2 heavy coats of a bituminous paint.

B. Flanged Joints

1. All flanges shall be true and perpendicular to the axis of the pipe. Flanges shall be cleaned of all burs, deformations, or other imperfections before joining. Flanged joints shall be installed so as to ensure uniform gasket compression. All bolting shall be pulled up to the specified torque sequence. Where screwed flanges are used, the finished pipe edge shall not extend beyond the face of the flange, and the flange neck shall completely cover the threaded portion of the pipe.
2. Connections to equipment shall be made in such a way that no strain is placed on the equipment flanges. Connecting flanges must be in proper position and alignment and no external force may be used to bring them together properly.

C. Push-On Joints

1. The inside of the bell and the outside of the pipe from the plain end to the guide stripe must be wiped clean immediately before assembling the pipe joint. Then the rubber gasket shall be inserted into a groove or shaped recess in the bell. Both the bell and spigot ends to be joined shall be wiped again to ensure they are thoroughly clean. A liberal coating of special lubricant furnished by the pipe manufacturer shall be applied to the outside of the pipe from the plain end to the yellow guide stripe and to the inside of the gasket. The plain end shall be centered in the bell and the spigot pushed home. Whenever possible the pipe shall be socketed by hand; however, jacking may be required to push the spigot in place on the larger sizes of pipe. The completed joint shall be permanently sealed and watertight.
2. Whenever the pipe is cut in the field, the cut end shall be conditioned so it can be used in making up a joint by filing or grinding the cut end to remove burrs or sharp edges that might damage the gasket.

D. Permissible Deflection of Joints

1. Deflection of ductile iron pipe at joints for long radius curves or for avoiding obstacles shall be permitted only upon approval of the Owner's Consultant.
2. Where deflection of joints is permitted, such deflection shall be made in accordance with and shall not exceed limits provided in Section 9b.5 and Section 9c.4 as applicable, of AWWA C600.

E. Joints of Dissimilar Metals

1. When a flanged joint consists of ductile iron flange mated to a steel or alloy flange, the steel flanges shall be flat faced and furnished with full-faced gaskets, insulating bushings and stainless steel bolts.

F. Restrained joints

1. Assembly of restrained joints varies depending on the type of joint used. Assembly shall be in strict accordance with joint manufacturer's recommendation.

3.3 FIELD TESTING

- A. Pressure pipe lines shall be subject to hydrostatic pressure leakage tests at a pressure of 1.5 times the maximum field working pressure of the pipeline. The pressure shall be maintained for a minimum of two hours. Test Pressure shall not vary by more than ± 5 psi for the duration of the test. Procedures shall conform to AWWA C600, except as otherwise specified herein. Testing shall be made in the presence of the Owner's Consultant.
- B. All piping shall be securely anchored and restrained against movement prior to application of

test pressures. Prior to the pressure test, pipe laid in trenches shall be fully backfilled during the test, and all air shall be expelled from all pipes. All joints, fittings, and valves will be left open where possible.

- C. After satisfactory completion of the pressure test, (all pressure piping) shall be leak tested. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe or any valved section therefore to maintain pressure within 5 psi of the specified test pressure after the pipe has been filled with water and the air has been expelled. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{ND\sqrt{P}}{10,000}$$

L= Allowable Leakage in Gallons per hour

N= The Number of Joints in the section of pipe tested

D= The normal diameter of the pipe in inches

P= The average test pressure during the leakage test in pounds per square inch gauge

- D. Any leakage developing during the test in excess of the allowable leakage shall be corrected at the Contractor's expense by tightening, replacing packing of gaskets, or replacing defective portions of the piping system. Caulking will not be permitted. If the defective portion cannot be located, the Contractor at his expense, shall remove and reconstruct as much of the original work as necessary to obtain a system without leakage.
- E. After all tests on any section have been completed to the satisfaction of the Owner's Consultant, the Contractor shall carefully clean, blow out, and drain the line of all water to prevent freezing. The Contractor shall also demonstrate to the satisfaction of the Owner's Consultant that any and all lines are free from obstructions and foreign material.
- F. The Contractor shall bear the complete cost of the tests, including set-up, labor, temporary piping, blocking, gauges, bulkheads, water, air, soap solutions, and other materials required to conduct the tests.

3.4 DISINFECTION

- A. All ductile iron pipe used for potable water shall be subject to disinfection upon leakage testing and after all necessary repairs have been made. The lines shall be flushed clean and then disinfected in strict accordance with AWWA Standard For Disinfecting Water Mains, C651, latest revision, subject to the following special conditions:
1. The method of disinfection shall be the Continuous – Feed Method as per AWWA C651, latest revision, Section 5.2. The potable water shall be chlorinated so that after a 24 hour holding period in the main, there will be a free chlorine residual of not less than 10 mg/l at all points in the system when tested with a standard orthotolindine solution.
 2. The form of chlorine shall be a 1 percent solution made from either sodium hypochlorite or calcium hypochlorite which shall be measured and pumped into the pipeline. Water must be flowing during the feeding operation and the injection point must be located so that the flow of water will disperse the chlorine throughout the pipeline. AWWA C651 requires the injection point be located at a point not more than 10 feet from the point of connection to the existing water supply. The chlorine should be fed at a constant rate such that the water will have not less than 25 mg/l free chlorine. The following table gives the amount of chlorine required for each 100 feet of pipe of various diameters to produce a 25 mg/l

concentration.

Chlorine Tabulation

Pipe Diameter (in.)	100% Chlorine (lb.)	1% Chlorine Solution (gal.)
6	0.030	0.36
8	0.054	0.65
10	0.085	1.02
12	0.120	1.44
16	0.217	2.60

3. After 24 hours, the line shall be flushed until the chlorine content is not more than 2.0 parts per million. When this step is completed, the Contractor shall employ a recognized testing laboratory who will submit the test results to the Owner. If the samples show evidence of contamination upon testing, the above procedure of disinfection shall be repeated until approved samples are obtained. No connections shall be made to the existing system until all of the samples have been tested and approved by the system Owner.
4. The Contractor has the option of discharging the highly-chlorinated water being flushed from the pipeline to the existing sewers (if available) or to open areas where the discharge will not damage the roadbed or adjacent property. Dechlorinating water prior to discharge is required. The area where the chlorinated water is to be discharged shall be inspected. If there is any possibility that the chlorinated discharge will cause damage to the environment, then a neutralizing chemical shall be applied to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. The highly chlorinated water shall not be discharged near any streams, ponds, lakes or other bodies of water without being chlorinated.
5. The chlorine residual of water being disposed may be neutralized by treating the water with one of the chemicals listed in the table below:

Chemical Required

Residual Chlorine Concentration	Sulfur Dioxide (SO ₂)	Sodium Bisulfate (NaHSO ₃)	Sodium Sulfite (Na ₂ SO ₃)	Sodium Thiosulfate (Na ₂ S ₂ O ₃ ·5H ₂ O)
mg/l	lb (kg)	lb (kg)	lb (kg)	lb (kg)
1	0.8 (0.36)	1.2 (0.54)	1.4 (0.64)	1.2 (0.54)
2	1.7 (0.77)	2.5 (1.13)	2.9 (1.32)	2.4 (1.09)
10	8.3 (3.76)	12.5 (5.67)	14.6 (6.62)	12.0 (5.44)
50	41.7 (18.9)	62.6 (28.39)	73.0 (33.11)	60.0 (27.22)

Amounts of chemicals required to neutralize various residual chlorine concentrations in 100,000 gal (378.5 m³) of water**END OF SECTION 15060**

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FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider June 16, 2022 Special Called Meeting Minutes

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

FACTS AND ISSUES:

OPTIONS:

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [June 16, 2022 Special Called Meeting Minutes - Unofficial.pdf](#)



**City of Flowery Branch
Special Called City Council Meeting
Thursday, June 16, 2022, 9:00 A.M.
City of Flowery Branch City Hall
5410 W. Pine Street, Flowery Branch, GA 30542**



CALL PUBLIC MEETING TO ORDER:

Mayor Asbridge called the special called meeting and public hearing to order at 9:01 am.

Present: Mayor Asbridge and Council Members Joe Anglin, Oliver McClellan, Joseph Mezzanotte and Chris Mundy. Also present were City Manager Tonya Parrish, City Clerk Shelia Cooper, Finance Director Alisha Gamble, Finance Director Matt Hamby, Planning Director Rich Atkinson, and City Attorney Ron Bennett.

Absent: Council Member William McDaniel

PLEDGE OF ALLEGIANCE:

Mayor Asbridge led the Pledge of Allegiance.

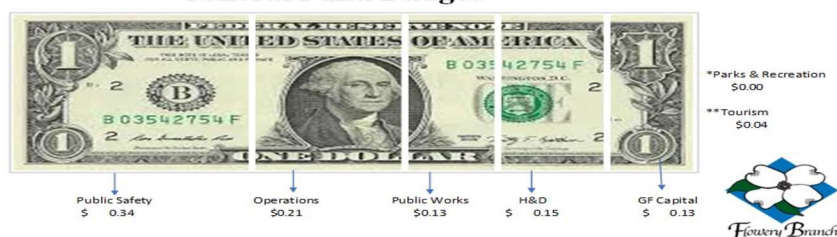
PUBLIC HEARING:

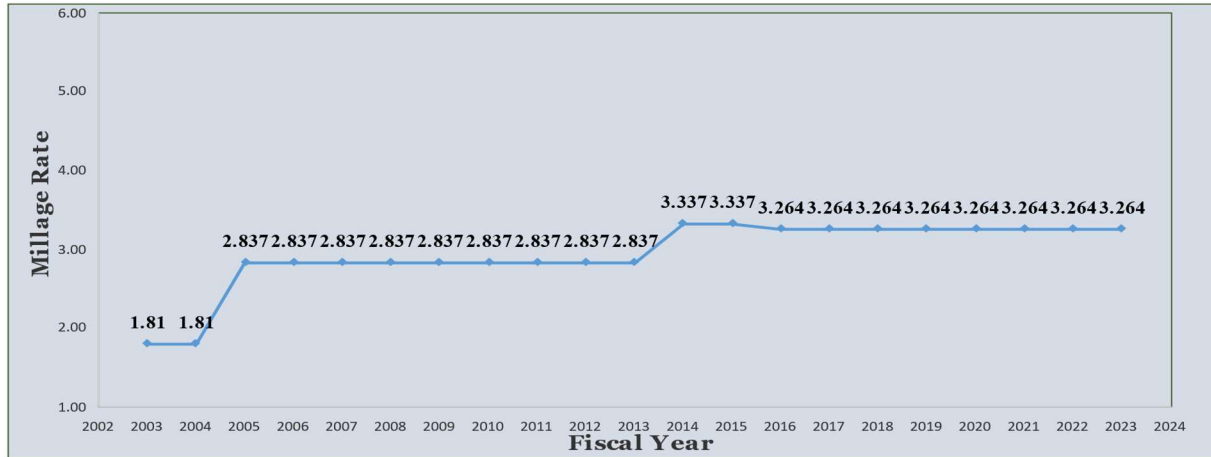
First Public Hearing: Ordinance 664 – To adopt an ad valorem tax rate for Tax Year 2022/Fiscal Year 2023.

Finance Director Gamble presented the first public hearing of Ordinance 664 to adopt an ad valorem tax rate and levy the tax upon all property subject to taxation in the City of Flowery Branch. The net property value of the tax digest for the City of Flowery Branch is \$783.5 million. The gross millage rate is 5.039 mills and the LOST rollback based on last year's LOST collections is 1.775 mills. This gives us a net millage rate of 3.264 mills. Property Taxes are considered a major revenue source for all cities and counties. This revenue source is used to fund public services such as road, bridges, sidewalks, stormwater infrastructures, emergency services and equipment, parks and recreation, and beautification. For the City of Flowery Branch, property tax revenue equates to 35% of the total general fund operating budget.

The chart below shows our total fiscal year 2023 general fund proposed budget of \$7M, the percentage per city service category, the millage breakdown per category and the total dollar value of millage contributions for city services per category.

YOUR TAX DOLLAR AT WORK
A Quick-Look Summary of the Adopted \$7.139 Million FY 2023
General Fund Budget





MILLAGE RATE HISTORY

The image above is a delineation of the previous chart that breaks down how each tax dollar collected is spent on public services:

Operations	=	21%	(21cents)
Police/Court	=	34%	(34 cents)
Maintenance	=	13%	(13 cents)
*****maintenance includes roads, bridges, stormwater, and sidewalk maintenance			
Planning and Development	=	15%	(15 cents)
General Fund Capital	=	13%	(13 cents)
Tourism	=	4%	(4 cents)
Parks	=	0%	(0 cent)

Over the past 20 years, there were three periods of millage fluctuations as shown in the history of the City for tax years 2003 – 2021.

- 2004 to 2005: increase from 1.81 to 2.837 for a total increase of 1.027 mills
- 2013 to 2014: increase from 2.837 to 3.337 for a total increase of 0.50 mills
- 2015 to 2016: decrease from 3.337 to 3.264 for a total decrease of 0.073 mills

From fiscal year 2016- 2022, the City's millage rate has been 3.264 mills and staff recommend staying at 3.264 mills for fiscal year 2023.



Median Home Value for the City of Flowery Branch				
100% Fair Market Value	40% Fair Market Value	Millage	Tax	Revenue to the City from all Tax Payers
\$ 325,000	\$ 130,000	3.264	\$424.32	\$ 2,493,485

NOTE: \$2,493,485 is based on a 97.5% collection rate.

Staff recommends staying with the same millage rate of 3.264 mills which is a 13.77% increase.

The average fair market value of homes in our area is \$325,000. We are assessed for local property taxes at 40% of the fair market value. Therefore, at a millage rate of 3.264 mills, the total tax on a \$325,000 home would be \$424.32. This comes to an increase of \$44.82 per taxpayer.

The total city revenue generated from a millage of 3.264 mills would be \$2,493,485 which is an estimated collection rate of 97.5%.

Staff recommends adopting Ordinance 664, setting the millage rate at 3.264 mills.

There was a discussion with Mayor and Council regarding other municipalities rolling back their millage rate taxes, and Finance Director Gamble stated that in order for the City to maintain our level of service and to keep up with our growth we will need to keep the millage rate at 3.264.

Council Member Anglin stated we have the lowest millage rate of other local municipalities in our area.

PUBLIC COMMENT:

There was no public comment.

ADJOURNMENT:

There was a motion made to adjourn at 9:21 a.m.

MOTION: Joe Anglin

SECOND: Oliver McClellan

AYES: Joe Anglin, Oliver McClellan, Joseph Mezzanotte, Chris Mundy

NAYS: None

Motion carried

Ed Asbridge, Mayor

Date

Shelia Cooper, City Clerk



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider June 16, 2022 City Council Meeting Minutes

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

FACTS AND ISSUES:

OPTIONS:

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [June 16, 2022 City Council Meeting Minutes - Unofficial.pdf](#)



**City of Flowery Branch
City Council Meeting
Thursday, June 16, 2022, 6:00 P.M.
City of Flowery Branch City Hall
5410 W. Pine Street, Flowery Branch, GA 30542**



CALL WORK SESSION TO ORDER:

Mayor Edward Asbridge called the council meeting to order at 6:02 p.m.

Present: Mayor Asbridge and Council Members Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte and Chris Mundy.

Also present were City Manager Tonya Parrish, City Clerk Shelia Cooper, Finance Director Alisha Gamble, Finance Director Matt Hamby, Planning Director Rich Atkinson, Deputy Chief Todd Templeton, Public Works Director Bill Whidden and City Attorney Ron Bennett.

PLEDGE OF ALLEGIANCE:

Mayor Asbridge led the Pledge of Allegiance.

AWARDS CEREMONY - LIFE SAVING AWARDS PRESENTATIONS

Life Saving Awards were presented by Deputy Chief Todd Templeton, Sergeant Dalton Hall and Mayor Asbridge to Officer Henry Jones and Officer Tyler Morrison.

AWARDS CEREMONY - DISTINGUISHED MEDAL AWARDS

Distinguished Medal Awards were presented by Deputy Chief Todd Templeton, Sergeant Dalton Hall and Mayor Asbridge to Corporal Christopher Compton, Sergeant Dalton Hall, Corporal Bret Sweeney, Officer Edgard Gonzales, and Dr. Kenneth Koon.

There was a motion to amend the agenda to include a New Business Work Session and a New Business Vote Session for the Martin Elementary Gravity Sanitary Sewer Replacement Project.

MOTION: Joe Anglin
SECOND: William McDaniel
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

PUBLIC HEARING:

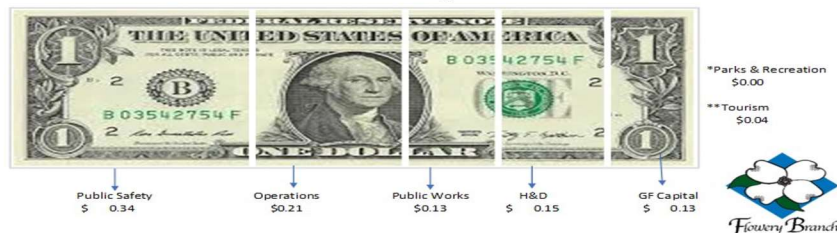
Mayor Asbridge called the Public Hearing to order at 6:15 p.m.

Second Public Hearing: Ordinance 664 – To adopt an ad valorem tax rate for Tax Year 2022/Fiscal Year 2023

Finance Director Gamble presented the first public hearing of Ordinance 664 to adopt an ad valorem tax rate and levy the tax upon all property subject to taxation in the City of Flowery Branch. The net property value of the tax digest for the City of Flowery Branch is \$783.5 million. The gross millage rate is 5.039 mills and the LOST rollback based on last year's LOST collections is 1.775 mills. This gives us a net millage rate of 3.264 mills. Property Taxes are considered a major revenue source for all cities and counties. This revenue source is used to fund public services such as road, bridges, sidewalks, stormwater infrastructures, emergency services and equipment, parks and recreation, and beautification. For the City of Flowery Branch, property tax revenue equates to 35% of the total general fund operating budget.

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The total city revenue generated from a millage of 3.264 mills would be \$2,493,485 which is an estimated collection rate of 97.5%.

Staff recommends adopting Ordinance 664, setting the millage rate at 3.264 mills.

Public Comments: There were none in favor or against the Public Hearing.

Mayor Asbridge closed the Public Hearing at 6:25 p.m.

UNFINISHED BUSINESS - WORK SESSION:

Consider Amending the Red Oak Sanitation, Inc. Residential Waste Disposal Services Agreement

City Manager Parrish presented an amendment to the Red Oak Sanitation, Inc. residential waste disposal services agreement. City Manager Parrish has negotiated with Red Oak Sanitation on behalf of the citizens of Flowery Branch. She explained there will be a temporary fuel surcharge on the bills that will be added to all invoices from Red Oak Sanitation.

There was a discussion regarding clarification on the price increase for waste services verses the price increase for recycling. There was also a discussion regarding yard waste services and a' la carte pricing.

NEW BUSINESS -WORK SESSION:

Consideration for the Mayor to sign the LOST Certificate of Distribution at 4.62% for the City of Flowery Branch

Finance Director Gamble presented the LOST certificate of distribution at 4.62% for the City of Flowery Branch. The LOST, Local Option Sales Tax, is a permanent 1% county-wide sales tax approved by the voters in a referendum. The purpose of the LOST funds is to provide property tax relief by funding governmental services such as law enforcement; garbage and solid waste disposal; streets; parks and recreation; water, sewer, and stormwater; and public transit, libraries, and air quality control. The goal is for all municipalities to have the certificate approved and returned to Hall County before July 1st. Our previous percentage was 1.39%, our current percentage is 2.92% and the proposed percentage is 4.62% based on 2020 Census Data.

Consideration of First Reading of Ordinance 239-L and 240-L to rezone tax parcel 15047 000885 from Planned Unit Development (PUD) to Planned Unit Development (PUD) with modified conditions.

Council Member McClellan, a Sterling on the Lake HOA board member, recused himself due to pending litigation with Sterling on the Lake and NNP-Looper Lake, LLC. He will recuse himself from this discussion and subsequent discussions or votes regarding Tax Parcel 15047 000885.

Planning Director Atkinson presented the first reading of Ordinance 239-L and 240-L. The request site plan modification approval to include forty-three single family detached single-family homes at the corner of Capitola Farm Road and Spout Springs Road. The request is consistent with previous zoning request. The style of homes to match PUD Zoning requirement of "Arts and Crafts", "Craftsman", and "Traditional" architectural theme throughout Sterling on the Lake.

Council Member Anglin asked why this does not have to go back through a Public Hearing since the product has changed from townhomes to single family detached homes and City Attorney Bennett responded that there is no legal requirement since this is an amendment to an existing application.

Council Member Mezzanotte asked if these are rear entry garages and Mr. Whitaker stated they are all front entry garages. The front of the neighborhood will have twelve backs of homes facing

Capitola and one side yard and it will also have nine backs of homes and one side yard facing Spout Springs.

There was a discussion on the square footage of the homes and the streets of the proposed development.

Request Change in Authorized Representative for TAD Bonds held by Regions Bank

Finance Director Gamble presented a request change in authorized representative for TAD Bonds held by Regions Bank from former City Manager Bill Andrew and outgoing Finance Director Alisha Gamble to City Manager Tonya Parrish and incoming Finance Director Matthew Hamby.

Consider DebtBook Service Contract

Finance Director Hamby presented a consideration of DebtBook Service Contract. GASB-87 is the new lease accounting standard for governmental entities that becomes effective for reporting periods beginning after June 15, 2021 (June 30, 2022 audits will be first). Governmental entities are required to:

- Consolidate their lease agreements (lessee and lessor – copiers, vehicles, real estate, water tower cell lease, among others)
- Test to determine whether they're subject to the reporting requirements
- Calculate schedules
- Update their audit with this new information

GASB-87 will impact both lessees and lessors from:

- Local government (counties, municipalities, school districts)
- Higher Education (public colleges and universities)
- Public hospitals and healthcare providers

GASB-87 goes in effect for fiscal years beginning after June 15, 2021.

DebtBook is a software solution that will help implement the GASB-87, GASB-96 and Debt Management. The cost is \$6,500 annually.

Martin Elementary School Gravity Sanitary Sewer Replacement Project

Public Works Director presented the Martin Elementary School gravity sanitary sewer replacement project. This project will be processed in two phases and the second phase is planned to be a scouring of the lines and relining of three manholes that goes from the fire department across the road on the north side of Martin Road. Phase one has revealed that the lines are in worse condition and they are thinner than we realized. The contract has advised that the existing pipe is unsuitable to support rem and reline. The contractor suggests replacing those lines and has agreed to continue the work if approval is granted. The estimated cost assumes existing steel casing under Martin Road is \$62,900. The estimated cost to jack and bore with 16" casing is an additional \$56,250. The total cost could range from \$62,900 to \$137,022.50.

Council Member Anglin asked how the City will pay for this and City Manager Parrish stated there are SPLOST VII funds available for this project and this is an emergency and that is why the item was added to the agenda.

DEPARTMENT REPORTS:

City Clerk Report:

City Clerk Cooper reported that the City participated in the Georgia Mountain Food Bank and our last donation was 213 pounds of food. We would like to thank everyone for their generous donations to this last food drive. Also, the City received an apology letter from Flowery Branch Masonic Lodge No. 212 for the early road closure during their last 5K Run that was held in the City.

Council Report:

Council Member Mundy reported that the Block Parties are a huge success and has heard great things in the community regarding the Block Parties.

Council Member McDaniel gave kudos to the police department for all the hard work, and it is great to see the police department being recognized.

Council Member Anglin gave praise to Finance Director Gamble for her great work and has done a great job for the City and expressed that she will be greatly missed.

ADJOURNMENT WORK SESSION:

Mayor Asbridge closed the work session at 7:20 p.m.

VOTING SESSION AGENDA

CALL VOTING SESSION TO ORDER:

Mayor Asbridge called the voting session to order at 7:25 p.m.

PUBLIC COMMENTS:

Frank Debold, 6843 Bent Twig Way, Flowery Branch, GA 30542

Mr. Debold is concerned regarding the Sterling on the Lake proposed project.

CONSENT AGENDA:

1. Consider June 2, 2022 City Council Meeting Minutes
2. Consider the appointment of Chip McCallum and Rick Marzano to the Gainesville Hall Metropolitan Planning Organization's Citizen Advisory Committee representing the City of Flowery Branch.

There was a motion made to approve the consent agenda.

MOTION: Chris Mundy

SECOND: Joseph Mezzanotte

AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy

NAYS: None

Motion carried

NEW BUSINESS - VOTING SESSION:

Martin Elementary School Gravity Sanitary Sewer Replacement Project

There was a motion to find that emergency circumstances exist as described by staff and to approve the change order for the Martin Elementary School Gravity Sanitary Sewer Replacement Project in an amount not to exceed \$137,022.50 to the Dickerson Group with the funding coming from SPLOST VII.

MOTION: Joe Anglin

SECOND: Chris Mundy

AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy

NAYS: None

Motion carried

UNFINISHED BUSINESS - VOTING SESSION:

Consider Amending the Red Oak Sanitation, Inc. Residential Waste Disposal Services Agreement

There was a motion made to approve Amending the Red Oak Sanitation, Inc. Residential Waste Disposal Services Agreement.

MOTION: Oliver McClellan

SECOND: Joseph Mezzanotte

AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy

NAYS: None

Motion carried

NEW BUSINESS - VOTING SESSION:

Consideration for the Mayor to sign the LOST Certificate of Distribution at 4.62% for the City of Flowery Branch

There was a motion made approving the Mayor to sign the LOST certificate of distribution as presented.

MOTION: Chris Mundy
SECOND: Oliver McClellan
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

First Reading: Ordinance 664 – To adopt an ad valorem tax rate for Tax Year 2022/Fiscal Year 2023

City Attorney Bennett read the caption to Ordinance 664.

There was a motion made to approve Ordinance 664 to adopt an ad valorem tax rate for Tax Year 2022/Fiscal Year 2023.

MOTION: Chris Mundy
SECOND: William McDaniel
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

Consideration of executing a Lease Agreement for Suite 103 at 5519 Main Street with The Social Peach Boutique, LLC.

There was a motion made to approve executing a Lease Agreement for Suite 103 at 5519 Main Street with The Social Peach Boutique, LLC.

MOTION: Joseph Mezzanotte
SECOND: Oliver McClellan
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

Consideration of First Reading of Ordinance 239-L and 240-L to rezone tax parcel 15047 000885 from Planned Unit Development (PUD) to Planned Unit Development (PUD) with modified conditions.

City Attorney Bennett read the caption for Ordinance 239-L and 240-L.

There was a motion made to deny the first reading of Ordinance 239-L and 240-L to rezone tax parcel 15047 000885 from Planned Unit Development (PUD) to Planned Unit Development (PUD) with modified conditions.

MOTION: Joe Anglin
SECOND: Chris Mundy
AYES: Joe Anglin, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

Request Change in Authorized Representative for TAD Bonds held by Regions Bank

There was a motion made to approve Request Change in Authorized Representative for TAD Bonds held by Regions Bank.

MOTION: Chris Mundy
SECOND: Joe Anglin
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

Consider DebtBook Service Contract

There was a motion made to enter into an agreement with DebtBook for a cloud-based debt management software.

MOTION: Chris Mundy
SECOND: William McDaniel
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

EXECUTIVE SESSION: There was no executive session

ADJOURNMENT:

There was a motion made to adjourn at 7:38 p.m.

MOTION: Chris Mundy

SECOND: Oliver McClellan

AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy

NAYS: None

Motion carried

Ed Asbridge, Mayor

Date

Shelia Cooper, City Clerk



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider June 23, 2022 Special Called City Council Meeting Minutes

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

FACTS AND ISSUES:

OPTIONS:

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [June 23, 2022 Special Called City Council Meeting Minutes - Unofficial.pdf](#)



**City of Flowery Branch
Special Called City Council Meeting
Thursday, June 23, 2022, 4:00 P.M.
City of Flowery Branch City Hall
5410 W. Pine Street, Flowery Branch, GA 30542**



CALL WORK SESSION TO ORDER:

Mayor Edward Asbridge called the council meeting to order at 4:00 p.m.

Present: Mayor Asbridge and Council Members Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, and Chris Mundy.

Also present were City Clerk Shelia Cooper, Finance Director Alisha Gamble, Finance Director Matt Hamby, Public Works Director Bill Whidden and City Attorney Ron Bennett.

Absent: City Manager Tonya Parrish and Planning Director Rich Atkinson.

PLEDGE OF ALLEGIANCE:

Mayor Asbridge led the Pledge of Allegiance.

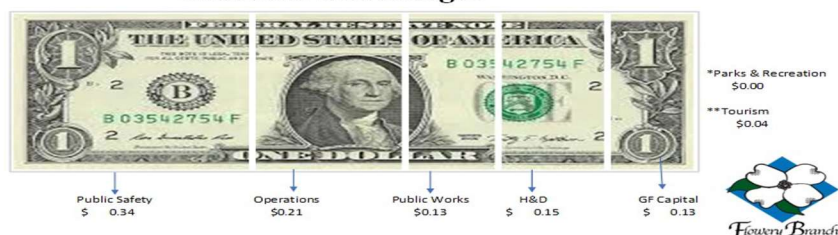
PUBLIC HEARING:

Final Public Hearing: Ordinance 664 – To adopt an ad valorem tax rate for Tax Year 2022/Fiscal Year 2023

Finance Director Gamble presented the final public hearing of Ordinance 664 to adopt an ad valorem tax rate and levy the tax upon all property subject to taxation in the City of Flowery Branch. The net property value of the tax digest for the City of Flowery Branch is \$783.5 million. The gross millage rate is 5.039 mills and the LOST rollback based on last year's LOST collections is 1.775 mills. This gives us a net millage rate of 3.264 mills. Property Taxes are considered a major revenue source for all cities and counties. This revenue source is used to fund public services such as road, bridges, sidewalks, stormwater infrastructures, emergency services and equipment, parks and recreation, and beautification. For the City of Flowery Branch, property tax revenue equates to 35% of the total general fund operating budget.

The chart below shows our total fiscal year 2023 general fund proposed budget of \$7M, the percentage per city service category, the millage breakdown per category and the total dollar value of millage contributions for city services per category.

YOUR TAX DOLLAR AT WORK
A Quick-Look Summary of the Adopted \$7.139 Million FY 2023
General Fund Budget



The image above is a delineation of the previous chart that breaks down how each tax dollar collected is spent on public services:

Operations	=	21%	(21cents)
Police/Court	=	34%	(34 cents)
Maintenance	=	13%	(13 cents)
*****maintenance includes roads, bridges, stormwater, and sidewalk maintenance			
Planning and Development	=	15%	(15 cents)
General Fund Capital	=	13%	(13 cents)
Tourism	=	4%	(4 cents)
Parks	=	0%	(0 cent)

Over the past 20 years, there were three periods of millage fluctuations as shown in the history of the City for tax years 2003 – 2021.

- 2004 to 2005: increase from 1.81 to 2.837 for a total increase of 1.027 mills
- 2013 to 2014: increase from 2.837 to 3.337 for a total increase of 0.50 mills
- 2015 to 2016: decrease from 3.337 to 3.264 for a total decrease of 0.073 mills

From fiscal year 2016- 2022, the City's millage rate has been 3.264 mills and staff recommend staying at 3.264 mills for fiscal year 2023.



Median Home Value for the City of Flowery Branch				
100% Fair Market Value	40% Fair Market Value	Millage	Tax	Revenue to the City from all Tax Payers
\$ 325,000	\$ 130,000	3.264	\$424.32	\$ 2,493,485

NOTE: \$2,493,485 is based on a 97.5% collection rate.

Staff recommends staying with the same millage rate of 3.264 mills which is a 13.77% increase.

The average fair market value of homes in our area is \$325,000. We are assessed for local property taxes at 40% of the fair market value. Therefore, at a millage rate of 3.264 mills, the total tax on a \$325,000 home would be \$424.32. This comes to an increase of \$44.82 per taxpayer.

The total city revenue generated from a millage of 3.264 mills would be \$2,493,485 which is an estimated collection rate of 97.5%.

Staff recommends adopting Ordinance 664, setting the millage rate at 3.264 mills.

Council Member McClellan asked if property values had not increased would the City have raised the millage rate for the increased costs and Finance Director Gamble stated that was correct.

Public Comments: There were none in favor or against the public hearing.

Mayor Asbridge closed the Public Hearing at 4:08 p.m.

PUBLIC COMMENT: There were no public comments.

UNFINISHED BUSINESS - VOTING SESSION:

Second Reading: Ordinance 664 – To adopt an ad valorem tax rate for Tax Year 2022/Fiscal Year 2023

City Attorney Bennett read the caption for Ordinance 664.

There was a motion made to approve Ordinance 664 to adopt an ad valorem tax rate for Tax Year 2022/Fiscal Year 2023.

MOTION: William McDaniel

SECOND: Oliver McClellan

AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy

NAYS: None

Motion carried

Consideration of Resolution 22-012 - To adopt the Fiscal Year 2023 Annual Budget

City Attorney Bennett read the caption for Resolution 22-012.

There was a motion to approve Resolution 22-012.

MOTION: Joe Anglin
SECOND: Chris Mundy
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

Agreement for Application Preparation – Rural Downtown Redevelopment Grant (RDRG)

There was a motion to approved for the Mayor to sign the Agreement for Application Preparation for the Rural Downtown Redevelopment Grant.

MOTION: Chris Mundy
SECOND: Oliver McClellan
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

ADJOURNMENT:

There was a motion made to adjourn at 4:16 p.m.

MOTION: Joe Anglin
SECOND: Chris Mundy
AYES: Joe Anglin, Oliver McClellan, William McDaniel, Joseph Mezzanotte, Chris Mundy
NAYS: None
Motion carried

Ed Asbridge, Mayor

Date

Shelia Cooper, City Clerk



FLOWERY BRANCH CITY COUNCIL



EXECUTIVE SUMMARY

SUBJECT: Consider First Read of Ordinance 667 - A request submitted by Milstead Homes, LLC. to Rezone a .36 +/- tract of land known as 5224 Chattahoochee Street from R-1 (Detached Single-Family, Low Density) to Flowery Branch R-3 (Residential Multi-Family)

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Originally submitted as a four (4) run townhome project, the applicant has reduced the project to two (2) single family detached residences with detached garages.

Proposed Schedule

June 2, 2022 – Public Hearing

July 21, 2022 – First Read and Vote

August 4, 2022 - Work Session (if requested)

August 18, 2022 – Second Read and Final Vote

FACTS AND ISSUES:

A request from Milstead Homes, LLC. to rezone 5224 Chattahoochee Street, a .36+/- acre of land also known as tax parcel identification number 08112 012008 from Residential, Detached Single-Family, Low-Density District (R-1) to Residential, Multi-Family (R3) with the intent to construct two single-family detached homes.

OPTIONS:

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

Approve the first read as submitted and conditioned.

SAMPLE MOTION:

I make a motion to approve the first reading of ordinance 667.

COLLABORATING DEPARTMENT:

DEPARTMENT: Planning

Prepared by: Shelia Cooper

ATTACHMENTS

- Letter to Coucil - Flowery Branch.pdf
- Staff Report Chattahoochee Overlook.pdf
- House Plan Renderings.pdf
- Survey - 2-Single Family.pdf
- Chattahoochee Overlook Ordinance.pdf

June 6th, 2022

City of Flowery Branch
Community Development
Rich Atkinson
PO Box 757
Flowery Branch, GA 30542

RE: Chattahoochee Overlook (Parcel 08112 012008)

Dear Mr. Atkinson & Council

Please let this letter serve as our letter of intent and written analysis comparing the proposed action with the criteria contained in the Flowery Branch Code of Ordinances regarding the Rezoning Application for the proposed project located off Chattahoochee St, in the City of Flowery Branch, Hall County, Georgia. The current use of this property is vacant land with a Residential-1 (R1) zoning, which we are requesting a Rezoning to Residential-3 (R3) for the purpose of building (2) Single Family Homes.

1. Whether the proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.
 - a. We believe that the requested proposal will permit a use that is suitable for this parcel given its location and proximity to existing single family homes across the street.
2. Whether the proposal will adversely affect the existing use or usability of adjacent or nearby property.
 - a. We suggest the proposal would positively impact the adjacent properties by increasing home values, increasing overall beauty, and follows in respect to the comprehensive plan of Flowery Branch.
3. Whether the property to be affected by the proposal can be used in accordance with the existing regulations and has a reasonable economic use as currently zoned.
 - a. The property has been a vacant R1 lot for many years, allowing 2 modern homes will improve its overall economic use while creating a beauty and aesthetic that is cohesive with Downtown Flowery Branch.
4. Whether the proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.
 - a. The current site plan of the proposed project will utilize the existing road infrastructure along Chattahoochee St., with no additional modifications needed.

We believe that the existing road, infrastructure, and school systems are equipped to handle this small scale project.

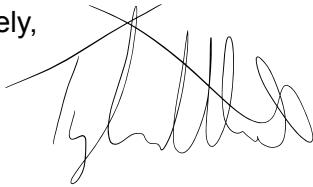
5. Whether the proposal is in conformity with the policy and intent of the comprehensive plan including but not limited to the character area map and future land use plan map.
 - a. We believe the extension of R3 Zoning to this lot would meet the future land use plan set forth by the city. Allowing this development would create a positive economic impact and enhance the community on multiple facets.
6. Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposal.
 - a. We are currently in a housing shortage crisis, with some estimates showing our current home shortage to be above 5 Million Units. A housing project like we are proposing is exactly what our local community and economy need. While also providing a higher energy efficient home that is technology driven.
7. Existing use(s) and zoning of the subject property and nearby properties.
 - a. The adjacent properties across the street are already zoned R3, along with several properties on adjacent streets. We are requesting an extension of this zoning across Chattahoochee St.
8. Existing value of the property under the existing zoning district classification, the extent to which the property value of the subject property is diminished by the existing zoning district; and the value of the property under the proposed zoning district; if such information is provided by the applicant or can be discerned. This consideration may include the length of time the property has been vacant or unused as currently zoned and efforts taken by the property owner(s) to use the property or sell the property under the existing zoning district classification.
 - a. The property has sat vacant for numerous years due to the unviability of building 1 single family home. Which is not the highest and best use for this land. The proposed R3 zoning would produce multiples much higher on an economic scale than it's current zoning.
9. Whether a proposed zoning map amendment or conditional use approval will be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations.
 - a. The adjacent properties are a mix between multi-family and single family. Creation of this project would positively impact home values and livability of the neighboring properties.
10. The possible creation of an isolated zoning district unrelated to the adjacent and nearby districts.

- a. The adjacent properties directly across the street are zoned R3. While the property at 106 Robertson Ct. NW, will likely be a future development. This will not create an isolated zoning district.
- 11. Possible effects of the change in zoning district map, or change in use, on the character of a zoning district.
 - a. The proposed zoning amendment would be consistent with the character of the adjacent R3 zoning development.
- 12. The possible impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality.
 - a. The project is being designed with McWhorter and Anderson to ensure the highest level of quality. While we are developing all appropriate measures will be taken to eliminate potential run-off and erosion. This project will include over 8k sqft of landscaped greenspace.
- 13. The relation that the proposed map amendment or conditional use bears to the purpose of the overall zoning scheme and the purposes of this Zoning Ordinance.
 - a. The proposed rezoning complies with the purpose of the overall zoning scheme and the purposes of the zoning ordinance in that the change to R3 Zoning will promote responsible growth compatible with the adjoining property zoned R3 directly across Chattahoochee St. Without impacting other developed properties in the surrounding area that are zoned for other uses.

City of Flowery Branch Staff and/or City Council are permitted and authorized to inspect the subject property as needed for the rezoning process.

We sincerely appreciate the consideration and review of the rezoning application by The City of Flowery Branch, Staff, and City Council. We look forward to working together on this exciting new project for Flowery Branch. Please do not hesitate to reach out to us to discuss the application and attachments in further detail if you have any questions or comments.

Sincerely,



Tyler D. Milstead

Managing Partner

Milstead Homes LLC

4435 Palmetto Lane | Cumming, GA 30041

Re-Zoning Application - Additional Information - 5224 Chattahoochee St, Flowery Branch

1. Value of improvements upon complete build out.
 - a. \$1,100,000 (2-Single Family Dwellings)
2. Property Tax Valuation based upon existing millage rate
 - a. \$4,675 per unit - \$9,350 combined yearly
3. Schedule of the total build out - Construction Timeline (Approx. 5-6 Months)
 - a. Permitting - Sep 1, 2022
 - b. Grading & Slab Form - Sep 9, 2022
 - c. Framing - Sep 16, 2022
 - d. Mechanical Rough-In - Sep 30, 2022
 - e. Siding and Windows - Oct 7, 2022
 - f. Insulation & Drywall - Oct 14, 2022
 - g. Tile Installation - Oct 21, 2022
 - h. Interior Trim - Nov 11, 2022
 - i. Painting - Nov 18, 2022
 - j. Flooring - Nov 25, 2022
 - k. Cabinet Installation - Dec 2, 2022
 - l. Final Plumbing and Electrical - Dec 16, 2022
 - m. Countertop Installation - Dec 23, 2022
 - n. Landscaping - Jan 4, 2023
 - o. Final Clean & Walk-Thru - Jan 11, 2023
4. Anticipated total square footage heated
 - a. 2,576 sqft (per unit)
 - b. Total (2-Single Family Dwellings) - 5,152 sqft
5. Total acreage developed with units

Re-Zoning Application - Additional Information - 5224 Chattahoochee St, Flowery Branch

- a. 0.359 Total Acres
- 6. Total acreage for right of way and roads
 - a. N/A
- 7. Total Acreage of Open Space / Landscaped Area
 - a. Approx. 10,000 sqft
- 8. Acreage required for buffer and watershed protection
 - a. N/A
- 9. Does your proposal consider Multi Transportation alternatives?
 - a. No
- 10. Please identify all amenities and total number of acres they incorporate by complete description.
 - a. Approx 10,000 sqft of landscaped greenspace
- 11. Number of street lights and separation table as proposed on your site plan.
 - a. N/A
- 12. Will technology development be included in the development?
 - a. Smart home technology integration
- 13. List the total linear feet and cubic yards for sidewalks.
 - a. Approximately 40 LF of sidewalk
- 14. Are appropriate storm water controls provided in your proposal? Are these controls completely and accurately reflected on the drawings and plans?
 - a. N/A
- 15. Has a transportation/traffic study been done to predict the impact of anticipated traffic?

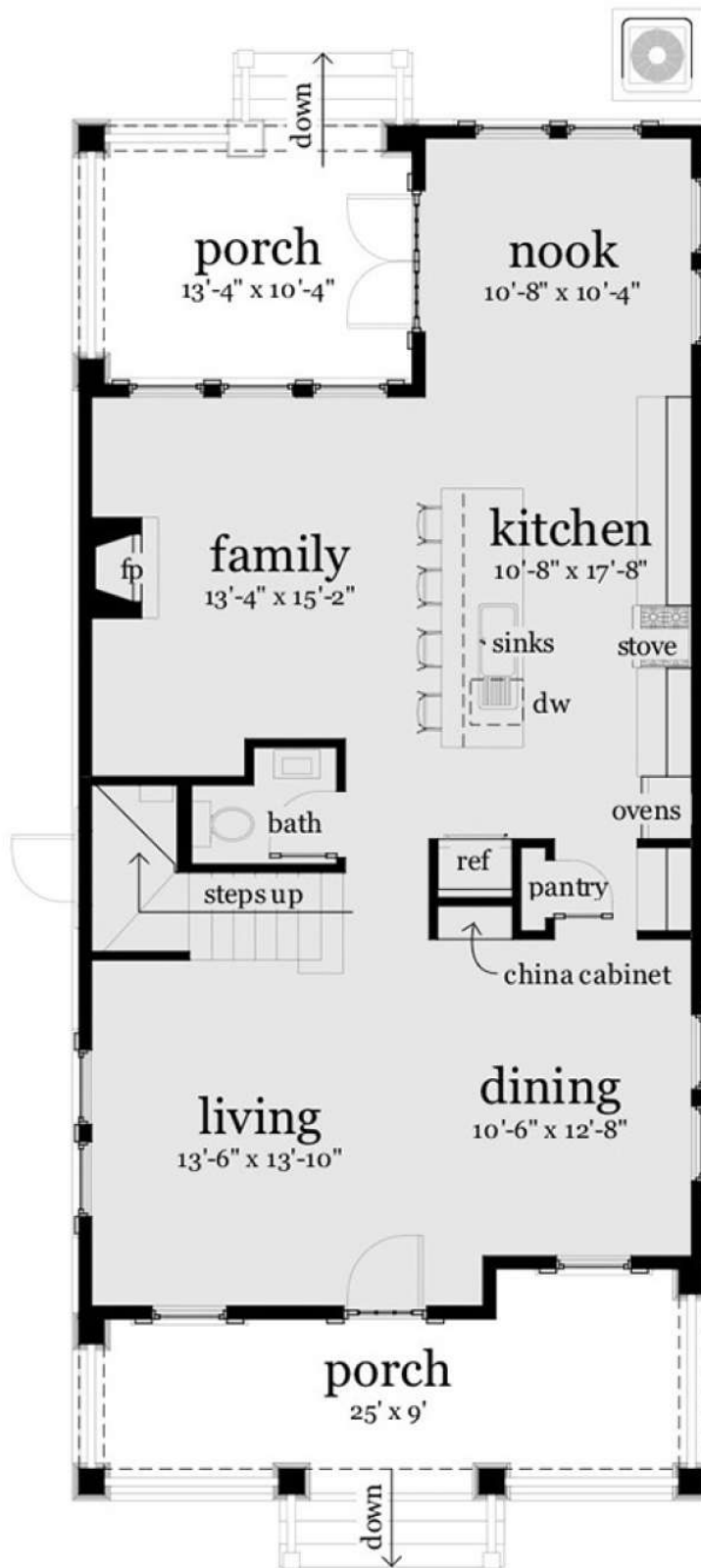
Has the project been reviewed by all appropriate county and state agencies relating to transportation issues?
 - a. N/A
- 16. Does the proposal provide for utilization of "reuse" water?

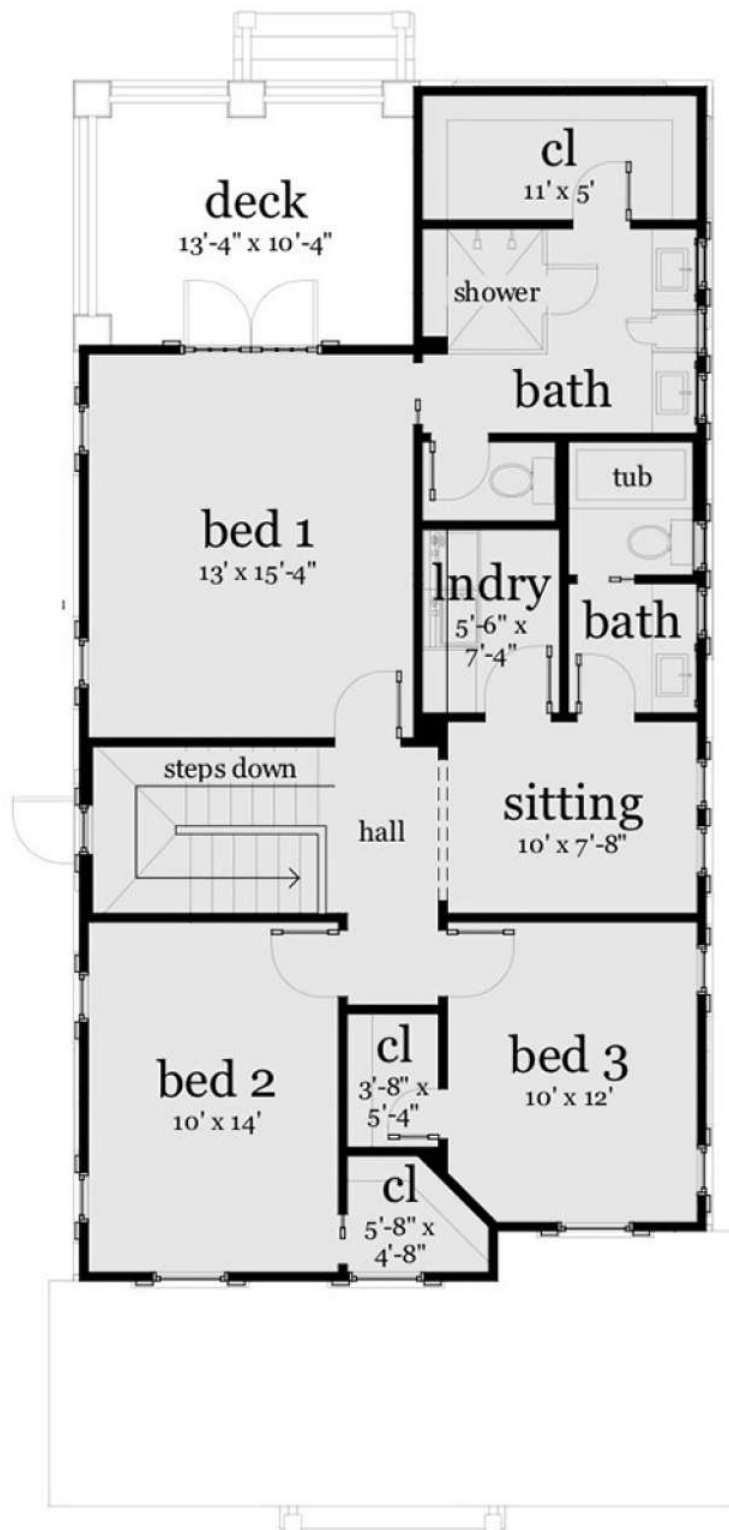
Re-Zoning Application - Additional Information - 5224 Chattahoochee St, Flowery Branch

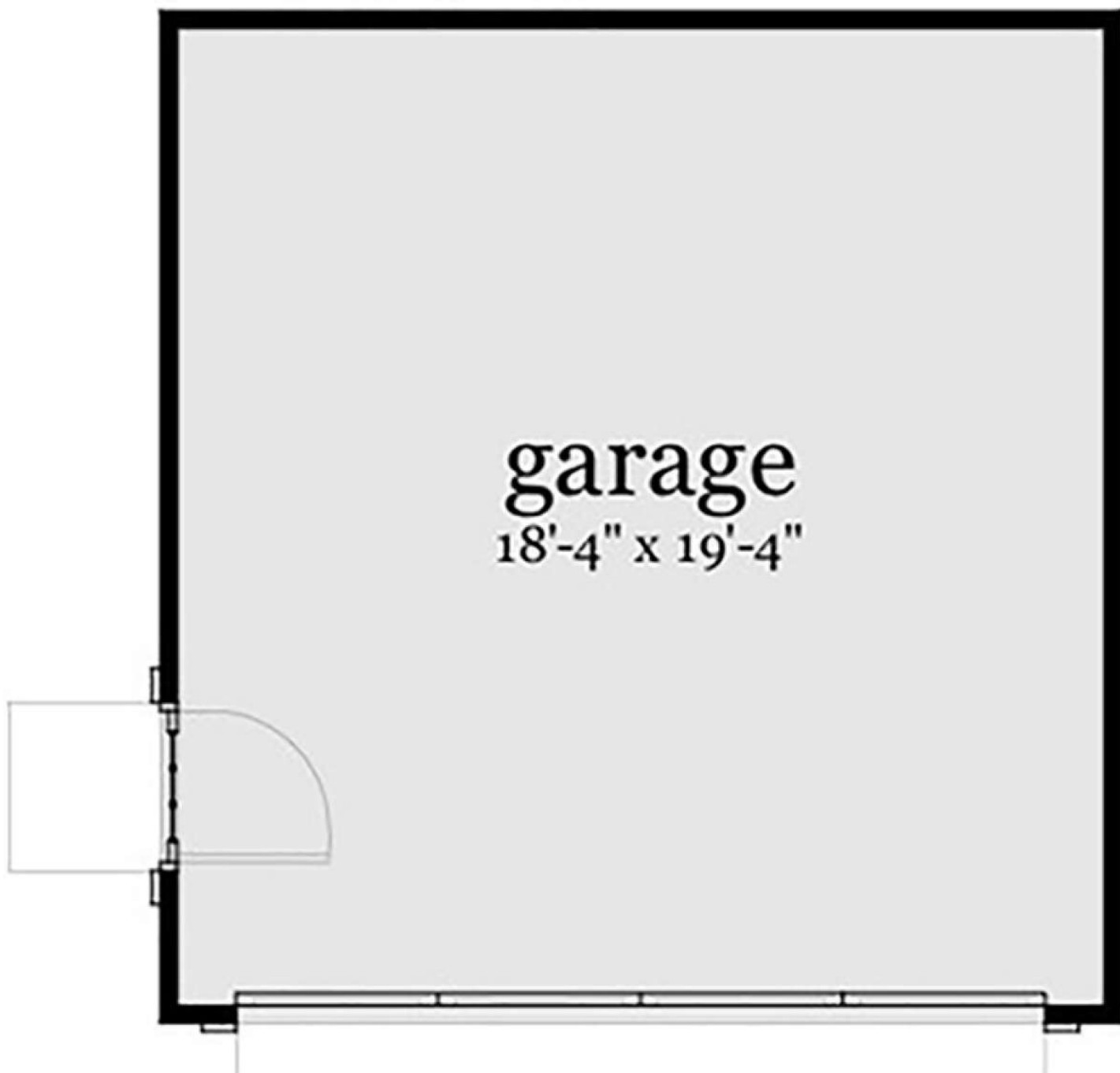
- a. No
17. What is the total capacity for daily wastewater management?
- a. Approx. 250+- gal/per day
18. What is the anticipated maximum daily water consumption? Are low flow fixtures required by the development?
- a. 158 gal/per day
 - b. Not required - However, some low-flow fixtures will be used
19. Has a slope grade study been done on this development? Does the study reflect density placement?
- a. Not at this time - lot topography is flat / minimal slope
20. Please identify what public safety needs are being considered for the project?
- a. N/A
21. Has the Hall County School System been notified of the proposed density for this project?
- a. No - Project is only 2 single family dwellings
22. Please provide a copy of all private covenants and/or architectural guidelines to be filed regarding this development.
- a. N/A











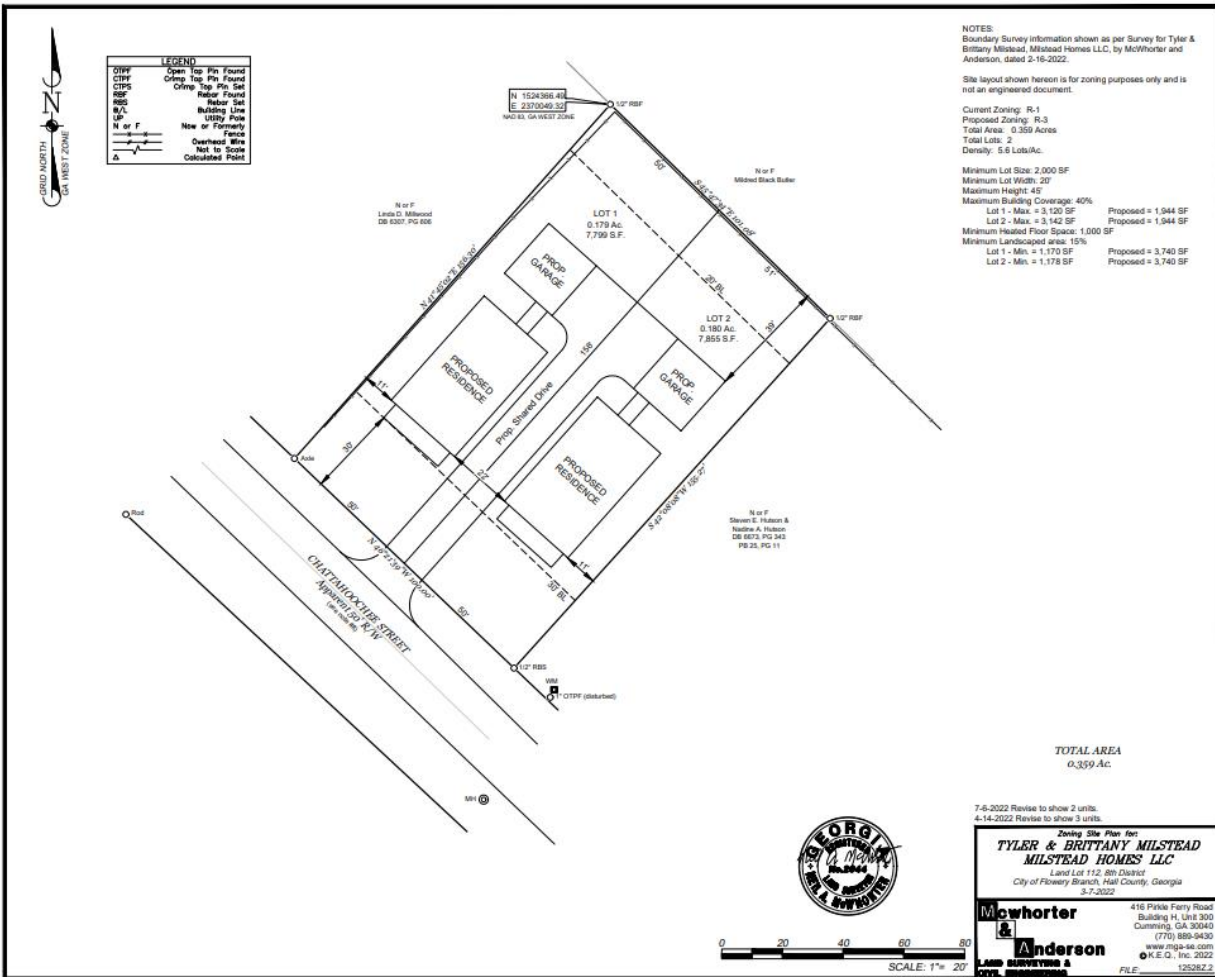


A request from Milstead Homes, LLC. to rezone 5224 Chattahoochee Street, a .36+/- acre of land also known as tax parcel identification number 08112 012008 from Residential, Detached Single-Family, Low-Density District (R-1) to Residential, Multi-Family (R3) with the intent to construct two single-family detached homes.





Proposed Layout







Proposed Schedule

June 2, 2022 – Public Hearing
July 21, 2022 – First Read and Vote
August 4, 2022 - Work Session (if requested)
August 18, 2022 – Second Read and Final Vote

Comprehensive Plan





Purpose of the Comprehensive Plan

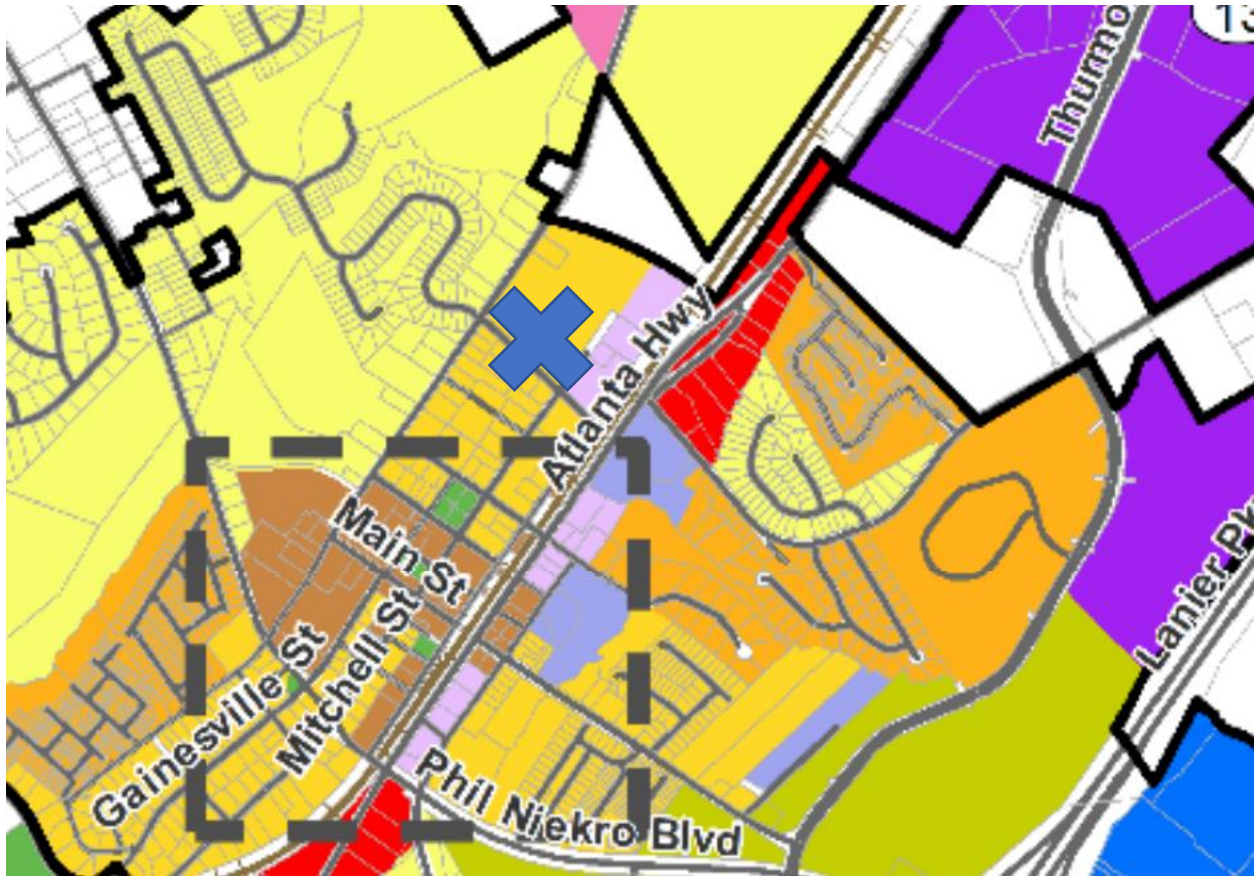
The *Flowery Branch Comprehensive Plan* is the City's policy guide for growth and development, as expressed by a vision statement, Future Development Map, character area policies, and supporting implementation strategies. The plan is most commonly used in the review and decision-making process by staff and City Council for rezoning requests, when proposals are evaluated for consistency with the Future Development Map and supporting text in this document.

The Comprehensive Plan also outlines the overall strategy for achieving the City's vision for future development by identifying a 5-year Community Work Program (CWP) with a prioritized 'to-do' list. The CWP should be consulted by staff and City Council on an annual basis when developing annual department-level work programs and the City budget.

In addition, this plan serves the purpose of meeting the intent and requirements of the Georgia Department of Community Affairs' (DCA) "Standards and Procedures for Local Comprehensive Planning," as amended on October 1, 2018. Preparation of a comprehensive plan in accordance with these standards is an essential requirement for maintaining status as a Qualified Local Government (QLG). QLG status allows Georgia cities and counties to be eligible for financial incentives from DCA, the Department of Natural Resources (DNR), the Georgia Environmental Finance Authority (GEFA), and the OneGeorgia Authority. This plan update allows the City of Flowery Branch to retain its QLG status.



Character Area: Traditional Neighborhood





Traditional Neighborhood

The Traditional Neighborhood character area includes the in-town residential areas around the downtown core of Old Town.

Vision

Maintain the character and development pattern of the originally settled neighborhoods of Flowery Branch, with sensitive residential in-fill development and careful improvements where required including new sidewalks, street trees, and other pedestrian-friendly streetscape features.

Design Principles

- Little if any building setbacks from city streets
- Rectangular or square blocks and lots, and block lengths should not exceed 800 feet without intervening (mid-block) pedestrian footpaths
- Narrow streets in a grid-like pattern with shade trees
- Building facades emphasize porches
- Rear entry garage or detached rear garage, with the exception that a garage may be recessed behind the front façade if off-street parking must be directly accessed from the street and directly facing the street
- Wide sidewalks
- Smaller lots/higher density than Suburban Residential
- Provision of public greens or common areas when new neighborhoods are created
- Design review required for compatibility with existing residences

Land Uses

- Primarily single-family detached dwellings
- Townhouses may be allowed
- Greens, plazas, and pocket parks incorporated into development plans

Zoning

- TND, Traditional Neighborhood Development

Illustrative Photos



The proposed rezoning and project meet the intent of the Comprehensive Plan.



Analysis

Flowery Branch Zoning Ordinance Article 37 Rezoning and Conditional Use Applications

Sec. 34.7. - Analysis Requirements.

Applications to amend the official zoning map and applications for conditional uses shall provide a written analysis comparing the proposed action with the criteria in this Section. A zoning map amendment or conditional use application may be justified only if it bears a reasonable relationship to the public health, safety, morality, or general welfare, and after consideration of the analysis requirements which may in individual cases be considered criteria relevant to Zoning Administrator in making recommendations and by the Governing Body in the decision-making process.

Staff Response:

- (a) Whether the proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property. **Yes, a residential use is appropriate for this site and the surrounding area. It will help serve the downtown commercial/retail area.**
- (b) Whether the proposal will adversely affect the existing use or usability of adjacent or nearby property. **The development will not adversely affect the area.**
- (c) Whether the property to be affected by the proposal can be used in accordance with the existing regulations and has a reasonable economic use as currently zoned. **Yes, current zoning of R-1 is economically feasible.**
- (d) Whether the proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools. **It is staff's opinion that the use will not create any unnecessary burdens.**
- (e) Whether the proposal is in conformity with the policy and intent of the comprehensive plan including but not limited to the character area map and future land use plan map. **Yes.**
- (f) Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposal. **Not to staff's knowledge, no.**
- (g) Existing use(s) and zoning of the subject property and nearby properties. **Currently vacant, the proposed use will fit in with the surrounding residential uses.**
- (h) Existing value of the property under the existing zoning district classification, the extent to which the property value of the subject property is diminished by the existing zoning district, and the value of the property under the proposed zoning district; if such information is provided by the applicant or can be discerned. This consideration may include the length of time the property has been vacant or unused as currently zoned and efforts taken by the property owner(s) to use the



2. Water and sewer shall be served by the City of Flowery of Flowery Branch.
3. Landscape plan for the entire project must be submitted and approved by city staff prior to the issuance of any building permits.
4. A grading plan and residential drainage plan for each lot must be approved by the city engineer prior to the issuance of any building permits.
5. Project is restricted to two (2) single family detached homes that shall significantly adhere to the material and design as shown below:



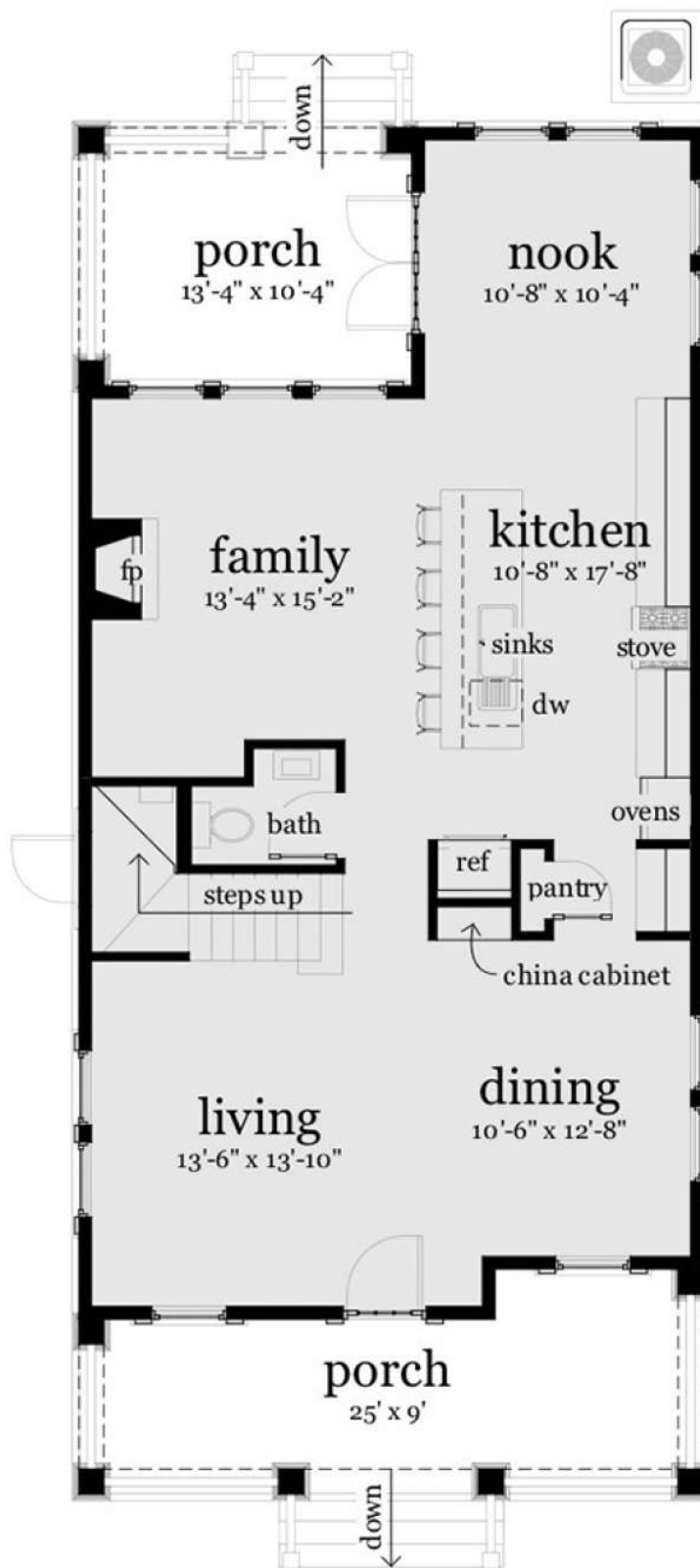


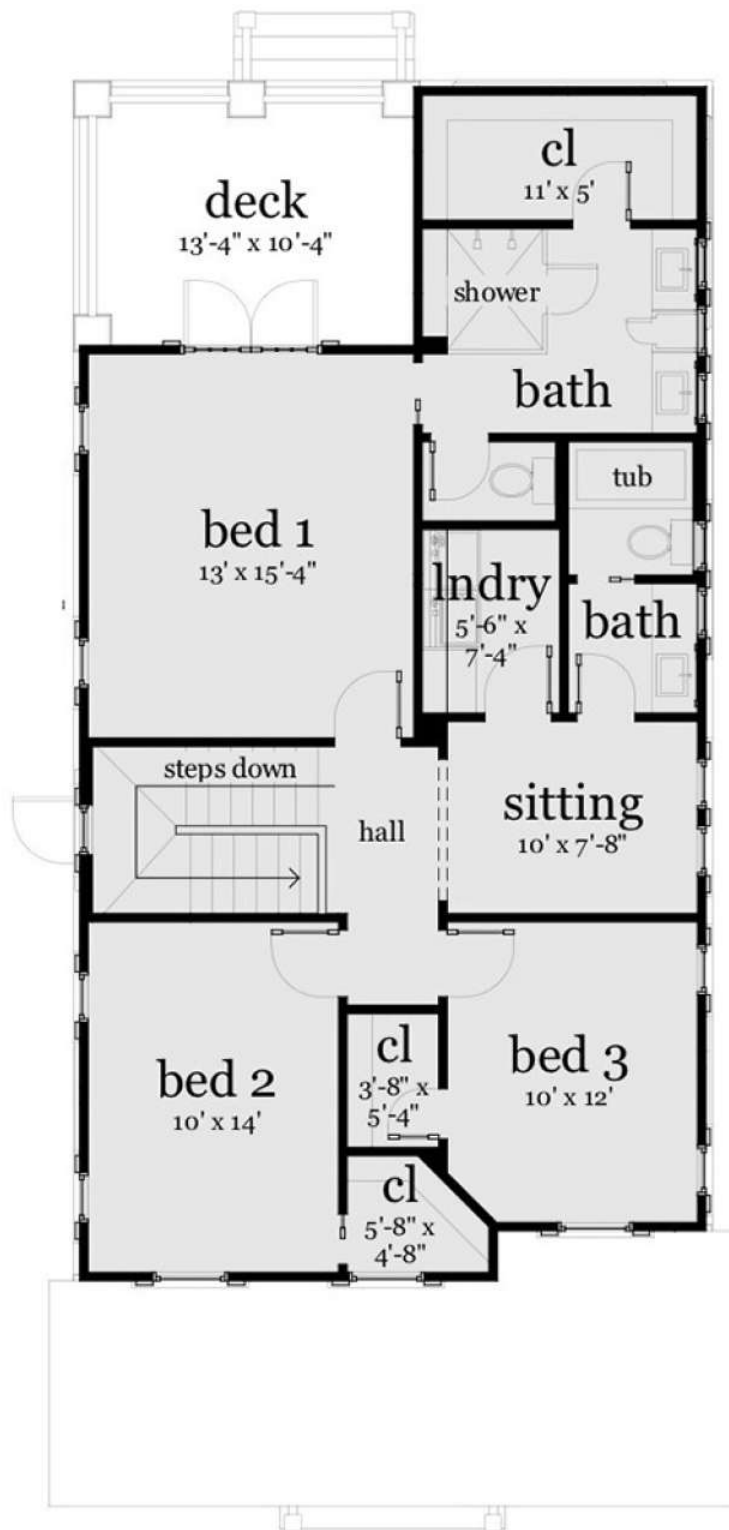
6. Each home will be served by a detached garage located behind the primary structure and shall significantly adhere to the material and design as shown below:

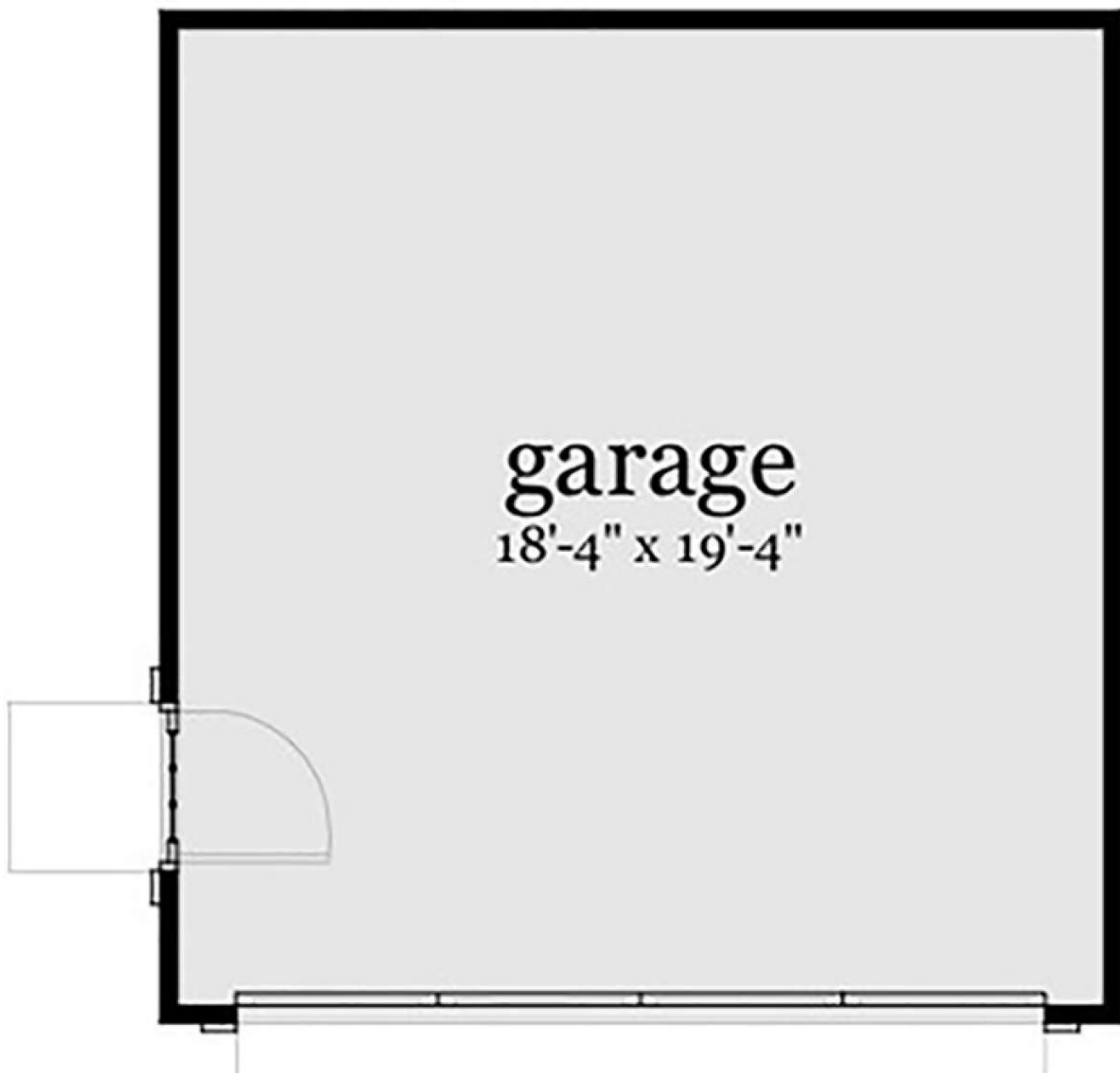


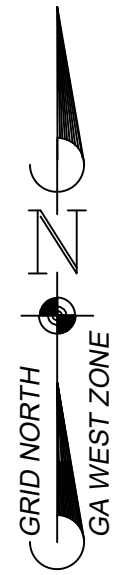




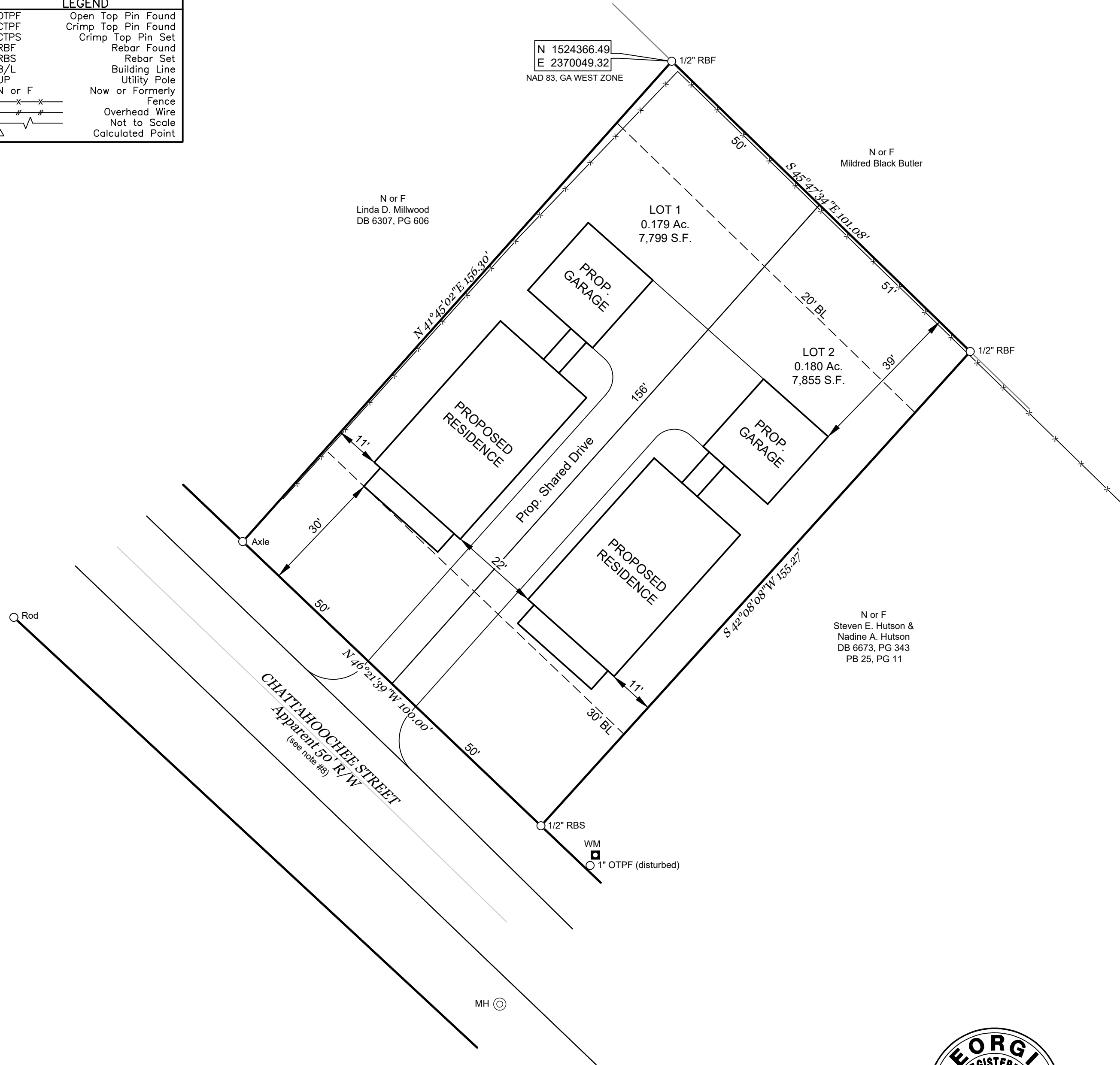








LEGEND	
OTPF	Open Top Pin Found
CTPF	Crimp Top Pin Found
CTPS	Crimp Top Pin Set
RBF	Rebar Found
RBS	Rebar Set
B/L	Building Line
UP	Utility Pole
N or F	Now or Formerly
---	Fence
---	Overhead Wire
---	Not to Scale
Δ	Calculated Point



NOTES:
Boundary Survey information shown as per Survey for Tyler & Brittany Milstead, Milstead Homes LLC, by McWhorter and Anderson, dated 2-16-2022.

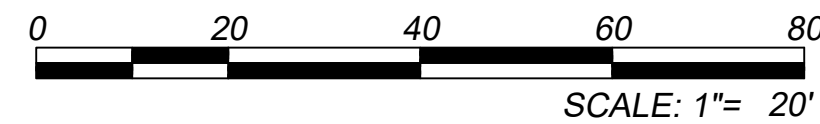
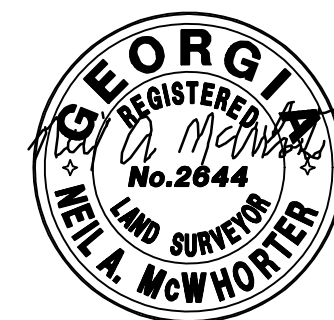
Site layout shown hereon is for zoning purposes only and is not an engineered document.

Current Zoning: R-1
Proposed Zoning: R-3
Total Area: 0.359 Acres
Total Lots: 2
Density: 5.6 Lots/Ac.

Minimum Lot Size: 2,000 SF
Minimum Lot Width: 20'
Maximum Height: 45'
Maximum Building Coverage: 40%
Lot 1 - Max. = 3,120 SF Proposed = 1,944 SF
Lot 2 - Max. = 3,142 SF Proposed = 1,944 SF
Minimum Heated Floor Space: 1,000 SF
Minimum Landscaped area: 15%
Lot 1 - Min. = 1,170 SF Proposed = 3,740 SF
Lot 2 - Min. = 1,178 SF Proposed = 3,740 SF

TOTAL AREA
0.359 Ac.

7-6-2022 Revise to show 2 units.
4-14-2022 Revise to show 3 units.



Zoning Site Plan for:
TYLER & BRITTANY MILSTEAD
MILSTEAD HOMES LLC
Land Lot 112, 8th District
City of Flowery Branch, Hall County, Georgia
3-7-2022

McWhorter
&
Anderson

LAND SURVEYING &
CIVIL ENGINEERING

416 Pirkle Ferry Road
Building H, Unit 300
Cumming, GA 30040
(770) 889-9430
www.mga-se.com
© K.E.Q., Inc. 2022

FILE: 12528Z.2

ORDINANCE 667

AN ORDINANCE AMENDING THE ZONING MAP OF THE CITY OF FLOWERY BRANCH, GEORGIA, BY REZONING A TRACT OF LAND OWNED BY MILSTEAD HOMES, LLC. TOTALING .36 +/- ACRES COMMONLY KNOWN AS 5224 CHATTAHOOCHEE STREET, IDENTIFIED AS TAX PARCEL 08112 012008 AND AS SHOWN ON ATTACHED EXHIBIT "A", DESCRIBED ON ATTACHED EXHIBIT "B", TO BE REZONED FROM R-1 (DETACHED SINGLE-FAMILY, LOW DENSITY) TO R-3 (MULTI-FAMILY RESIDENTIAL) SUBJECT TO THE CONDITIONS SET FORTH IN EXHIBIT "C"; PROVIDING FOR SEVERABILITY, REPEALING CONFLICTING ORDINANCES, PROVIDING FOR AN EFFECTIVE DATE AND FOR ALL OTHER LAWFUL PURPOSES.

WHEREAS, Milstead Homes, LLC. desires to develop the .36 +/- acre tract of land identified as tax parcel 08112 012008; as shown on Exhibit "A"; and legally described on Exhibit "B"; and

WHEREAS, specific conditions shall be placed on subject property shown on attached exhibit "C"; and

WHEREAS, the City Council of the City of Flowery Branch has considered the rezoning application of Milstead Homes, LLC. in conjunction with the standards set forth in Article 34 - Section 34.7 of Zoning Ordinance No. 348 of the City of Flowery Branch, Georgia; and

WHEREAS, Milstead Homes, LLC. has submitted to the City Council of Flowery Branch, Georgia, a written and signed application requesting to be rezoned and whereas a survey and complete description of the land to be rezoned is included in the application; and

WHEREAS, the City Council held a public hearing at the meeting of June 2, 2022, duly noticed as prescribed by law and published in the Gainesville Times, regarding said application, as shall be set forth in the minutes of said meeting.

NOW THEREFORE, THE COUNCIL OF THE CITY OF FLOWERY BRANCH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. FINDINGS.

The City Council finds that the proposed rezoning of the parcel from Flowery Branch R-1 (Detached Single-Family, Low Density) to Flowery Branch R-3 (Residential Multi-Family) is consistent with the adopted standards for governing the exercise of the zoning power consistent with O.C.G.A. § 36-66-5 and requirements of the Zoning Ordinance as identified below.

1. The proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.

2. The proposal is not expected to adversely affect the existing use or usability of adjacent or nearby property.
3. The property shall be used in accordance with the existing regulations and has a reasonable economic use as currently zoned.
4. The development if approved and constructed is not expected to result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.
5. The proposal is in conformity with the policy and intent of the comprehensive plan and the character area map and future land use plan map.
6. The proposal is considered appropriate in view of existing use(s) and zoning of the subject property and nearby properties.
7. No determination has been made by staff with regard to the value differential between development under the current R-1 as opposed to the proposed R-3.
8. A proposed development will not be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations.
9. There are no known adverse effects that would result from the changes to the R-3 zoning district.
10. Development as proposed is not expected to impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality. Compliance with city subdivision and land development regulations will be required, which include but are not limited to soil erosion and sedimentation, stormwater, and flood damage prevention.

SECTION 2. LEGAL DESCRIPTION AND CONDITIONS.

The property as shown in attached Exhibit “A” and as legally described in Exhibit “B” shall be rezoned to R-3 (Residential Multi-Family). Conditions are set forth in Exhibit “C”. Said Exhibits are incorporated by reference as if fully set forth herein.

SECTION 3. AMENDMENT OF THE ZONING MAP.

This Ordinance is enacted as an amendment to the Zoning Map of Flowery Branch, Georgia. Accordingly, the Zoning Administrator is hereby authorized to update the Official Map consistent with Article 3 of the Zoning Ordinance.

Public Hearing Published 05/04/2022
Public Hearing 06/02/2022

First Reading 07/21/2022
Adopted 08/18/2022

SECTION 4. SEVERABILITY.

Should any section or provision of this Ordinance be declared invalid or unconstitutional by any court of competent jurisdiction, such declaration shall not affect the validity of this Ordinance as a whole or any part thereof which is not specifically declared to be invalid or unconstitutional.

SECTION 5. EFFECTIVE DATE.

The effective date of this Ordinance shall be upon adoption by the City Council of the City of Flowery Branch, Georgia.

SECTION 6. REPEALER.

All ordinances and parts of ordinances in conflict herewith are hereby repealed to the extent of the conflict.

Adopted this 18th day of August 2022.

Edward R. Asbridge, Mayor

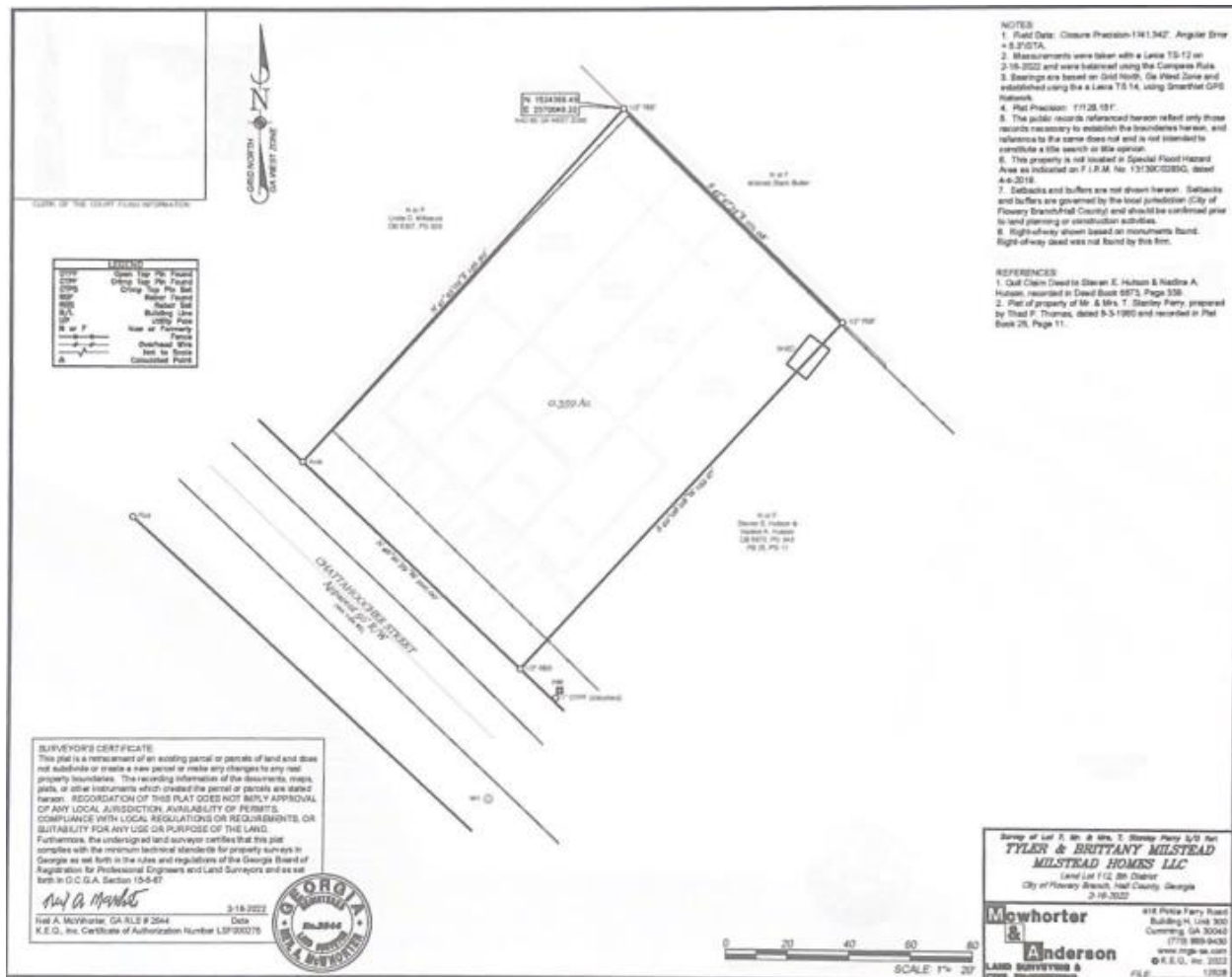
ATTEST:

Shelia R. Cooper, City Clerk

APPROVED AS TO FORM:

E. Ronald Bennett, Jr., City Attorney

Exhibit "A"



Public Hearing Published
Public Hearing

05/04/2022
06/02/2022

First Reading
Adopted

07/21/2022
08/18/2022

Exhibit "B"

LEGAL DESCRIPTION

All that tract or parcel of land lying in Land Lot 112, 8th District, City of Flowery Branch, Hall County, Georgia, being more particularly described as follows:

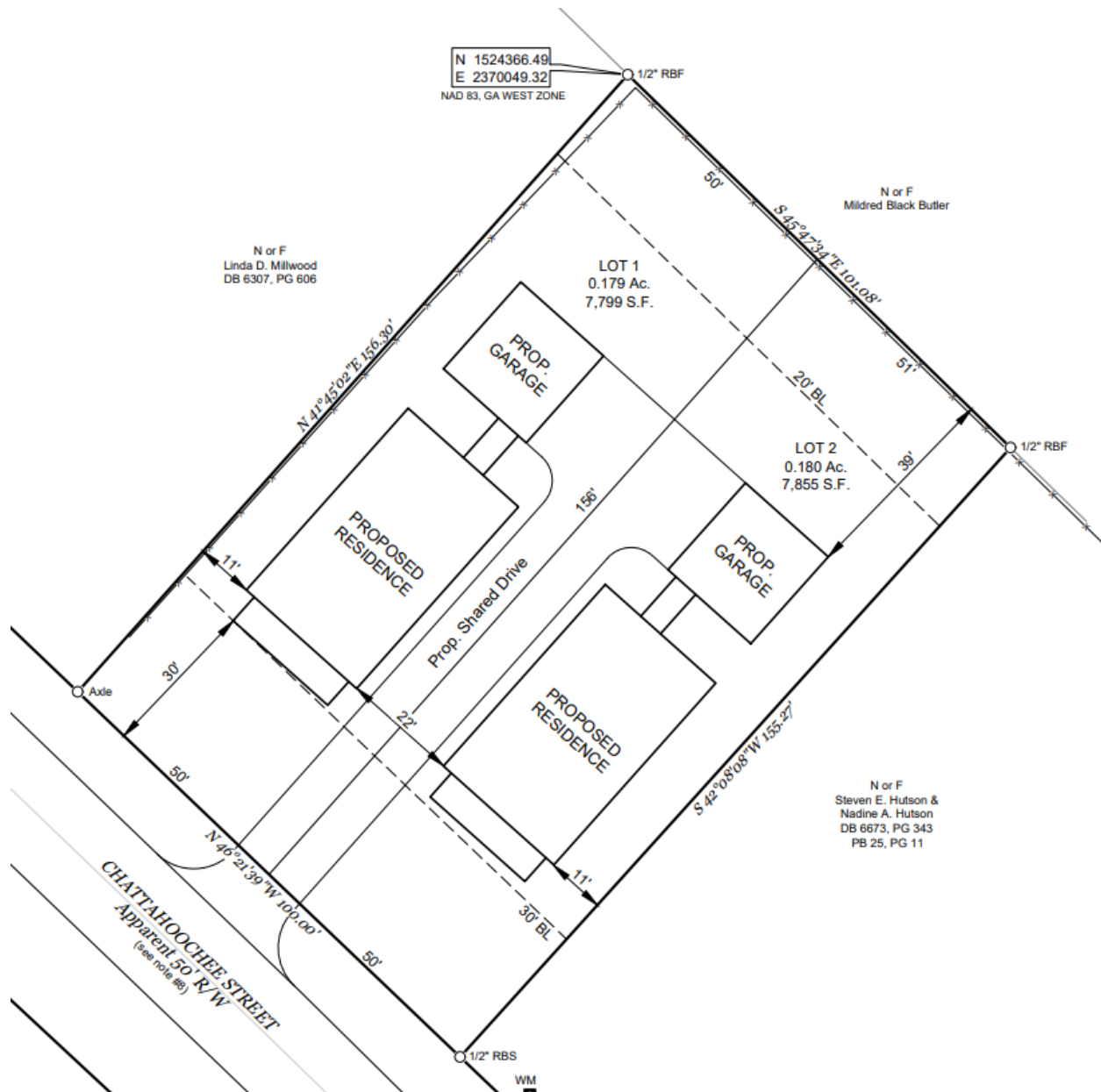
Beginning at a 1/2" re-bar having coordinates of North 1524366.49, East 2370049.32 (NAD 83, GA West Zone); thence, S45°47'34"E a distance of 101.08 feet to a 1/2" re-bar; thence, S42°08'08"W a distance of 155.27 feet to a point on the northern R/W of Chattahoochee Street (apparent 50' R/W); thence, along said R/W, N46°21'39"W a distance of 100.00 feet to an axle; thence, departing said R/W, N41°45'02"E a distance of 156.30 feet to the Point of Beginning.

Said tract contains 0.359 Acres, more or less.

Exhibit "C"

Conditions of Zoning

1. The site shall generally confirm to the plan shown below:



2. Water and sewer shall be served by the City of Flowery of Flowery Branch.
3. Landscape plan for the entire project must be submitted and approved by city staff prior to the issuance of any building permits.
4. A grading plan and residential drainage plan for each lot must be approved by the city engineer prior to the issuance of any building permits.
5. Project is restricted to two (2) single family detached homes that shall significantly adhere to the material and design as shown below:



6. Each home will be served by a detached garage located behind the primary structure and shall significantly adhere to the material and design as shown below:





FLOWERY BRANCH CITY COUNCIL



EXECUTIVE SUMMARY

SUBJECT: Consider First Read of Ordinances 665 and 666 - Requests from Chattahoochee Construction Managers, LLC/MQ Development, LLC to Rezone two tracts of land from Residential, Detached Single-Family, Moderate-Density District (R-2) to Residential Multi-Family District (R-3). Tract one is a 3.52+/- acre tract of land identified as 5674 Mulberry Street, tax parcel number 08116 000023, tract two is a 4.7+/- acre tract of land identified as 5740 Mulberry Street, tax parcel number 08116 000022.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Schedule:

June 2 Public Hearing

July 21 First Vote

August 4 Work Session (if requested)

August 18 Second Vote

FACTS AND ISSUES:

A request from Chattahoochee Construction Managers, LLC/MQ Development, LLC to rezone two tracts of land from Residential, Detached Single-Family, Moderate-Density District (R-2) to Residential Multi-Family District (R-3). Tract one is a 3.52+/- acre tract of land identified as 5674 Mulberry Street, tax parcel number 08116 000023, tract two is a 4.7+/- acre tract of land identified as 5740 Mulberry Street, tax parcel number 08116 000022, and construct fifty-five (55) townhomes.

OPTIONS:

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

Approve first read of Ordinances 665 and 666.

SAMPLE MOTION:

I make a motion to approve the first read of ordinance 665.

I make a motion to approve the first read of ordinance 666.

COLLABORATING DEPARTMENT:

DEPARTMENT: Planning

Prepared by: Shelia Cooper

ATTACHMENTS

- [Mulberry Townhomes Parcel 1.pdf](#)
- [Mulberry Townhomes Parcel 2.pdf](#)
- [Staff Report Mulberry Townhomes.pdf](#)
- [Ordinances 665 and 666.pdf](#)



Mulberry Street Townhomes

Parcel 08116 000023

Chattahoochee Construction Managers

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Additional Information Requirement	18
Inspection Form	19

Letter of Intent

4/11/2022

City of Flowery Branch
Community Development
PO Box 757
Flowery Branch, Georgia 30542

Rich Atkinson
Director of Planning and Community Development:

Mulberry Street Tract (Parcel Numbers 08116 000022, 08116 000023)

Dear Mr. Atkinson:

Please let this letter serve as our letter of intent to accompany our Rezoning Application for the project located at 5674 & 5740 Mulberry Street. The proposed use for the property is for an 8-acre attached townhome development. We are proposing 55 attached townhomes, yielding a density of 6.875 units per acre. We are requesting the subject property to be rezoned from the existing R2- Residential to R3 Residential Multi-Family District.

Architecture	• Brick, stone, and/or concrete siding will be used on all facades. • A minimum of 2 feet of brick or stone above the ground line is required • Architectural Shingles • Two Car Garage Minimum
Driveways	• Driveway width minimum 16 feet
Landscape Strip	• 10-foot landscape strip alongside Mulberry Street w/ shrubs and trees every 50 feet
Landscaping	• A mandatory HOA provides all grass and common area upkeep. • Front, Rear, and Side yards shall be sodded • Landscape Entrance
Proposed Amenities	• Common Areas • Park Area
Proposed Buffer	• 20 Foot Natural Undisturbed Buffer adjacent to residentially zoned properties as shown on the Zoning Exhibit

Setbacks Minimum Lot & Square Footage	Townhome- As shown on concept plan, 1800 SF
Sidewalks	Internal streets will be five feet wide.
Townhome Square Footage	1,800 Square Feet Minimum

We feel that our project supports the recommendations laid out in the Comprehensive Plan by providing an affordable 55-unit townhome community that incorporates design elements that embrace the historical foundation of the City of Flowery Branch.

We appreciate your time and thought in considering this rezoning proposal, and please do not hesitate to contact us with any concerns.

Sincerely,

Chris Fowler



Rezoning Application: City of Flowery Branch Mulberry Street



REZONING APPLICATION

Date: 4/11/2022

Address of Request:

Mulberry Street Tract (Parcel Numbers 08116 000023)

Tax Map # See Above **Current Zoning:** R2

Is this site located within the boundaries of the historic district? No

Currently a conforming use? Yes

Any conditions of zoning, CUP's, etc.? N/A

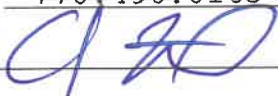
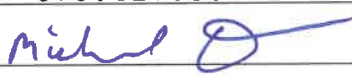
Applicant Information

Name: Chattahoochee Construction Managers, LLC / MQ Development, LLC

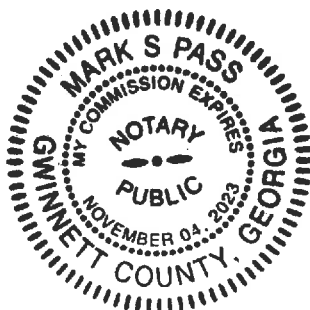
Address: 4111 Commerce St. Suite 400 Flowery Branch, Ga 30542
4111 Commerce St. Suite 400 Flowery Branch, Ga 30542

E-mail address: cfowler316@aol.com mqdev86@gmail.com

Phone number: 770.490.0163 678.617.5844

Signature:  

Notary:



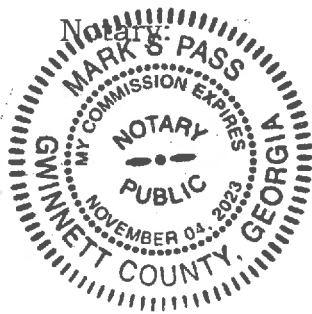
Mark S. Pass
4-11-22



Property owner information (if different than the applicant)

Property owner (please print): Charles D & Shirley L Titshaw Family, LP

Signature of property owner: Shirley L. Titshaw General Partner



Mark S. Pass
4-14-22

Property Information

Tax Map Number: Parcels (08116 000023)

Current Zoning: R2- Residential Total Acres: 3.314

Is this property located within the city-limits of Flowery Branch? Yes

Proposed City of Flowery Branch Zoning: R3- Residential

Current Use: Vacant

Please review the Flowery Branch Code of Ordinances, Appendix C, "Zoning Ordinance", Article 34, for complete requirements.

Please provide the following at time of submittal in (one hard copy and digitally):

- Legal description
- Current survey of property



- Site plan shall meet the requirements of the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.5
- Development statistics per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.6
- Analysis requirements per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.7
- Detailed description of request
- Conflict of interest disclosure (attached)
- Disclosure of campaign contributions (attached)
- Names and addresses of adjoining property owners
- Reasons for requesting rezoning
- Signed statement authorizing City of Flowery Branch staff and/or City Council to inspect the subject property

Conflict of Interest Disclosure

Identify all members of the City Council of the City of Flowery Branch and Employees of the City of Flowery Branch Community Development Department who

Have a property interest in the real property affected by this request

None

Have a financial interest (direct ownership interest) of the total assets or capital stock of a business entity where such ownership interest is more than 10% in any business entity which has a property interest in the real property affected by this request

None

Have a member of the family (spouse, mother, father, brother, sister, son or daughter) having a property financial interest as herein defined, in the real property affected by this request

None



Disclosure of Campaign Contributions

List below the names of local government officials of the City of Flowery Branch to whom campaign contributions were made, within two (2) years immediately preceding the filing of this application, which campaign contributions total \$250.00 or more or to whom gifts were made having a total value of \$250.00 or more.

Elected Officials Name

Amount of Description of Gift

None _____

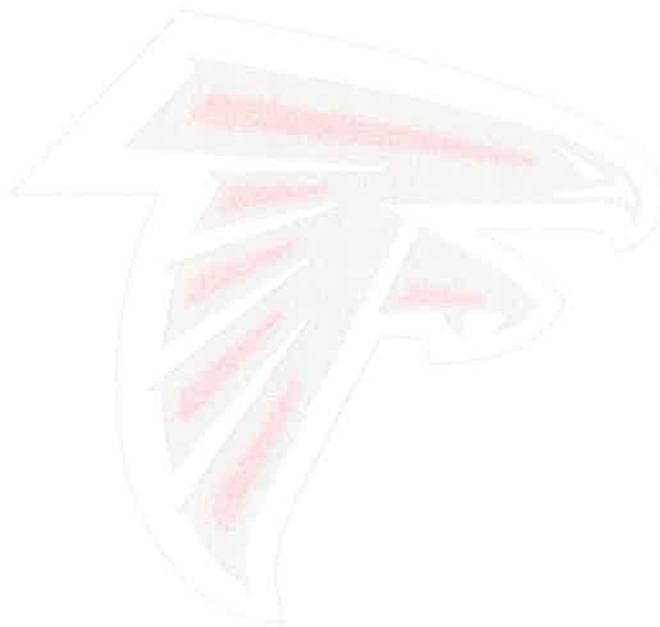
CITY STAFF ONLY

Application Received By: _____

Date: _____ Total Fee: _____



Flowerly Branch



Legal Description

Legal Description 08116 000023

All that tract or parcel of land lying and being located in Tax Parcel No. 08116 000023 of the City of Flowery Branch, Hall County, Georgia containing 4.686 acres according to a survey for C.S Titshaw Estate, prepared by Venable & Associates, Inc, by Allen L. Venable, LS (Georgia Registered Land Surveyor No. 1761) dated December 27th, 2000, and being more particularly described according to said survey as follows.

Beginning at the Marker Found inside the R/W at the corner of the property; Thence North 24° 26' 50" West a distance of 11.1 feet; Thence North 24° 26' 50" West a distance of 389.15 feet; Thence North 53° 17' 37" East a distance of 406.64 feet; Thence a curve to the right, having a LC of 120.06 feet and a bearing of 46° 37' 35"; Thence South 44° 45' 57" East a distance of 126.05 feet; Thence South 38° 43' 02" West a distance of 545.17 feet, to the point of beginning; Containing 3.314 acres.

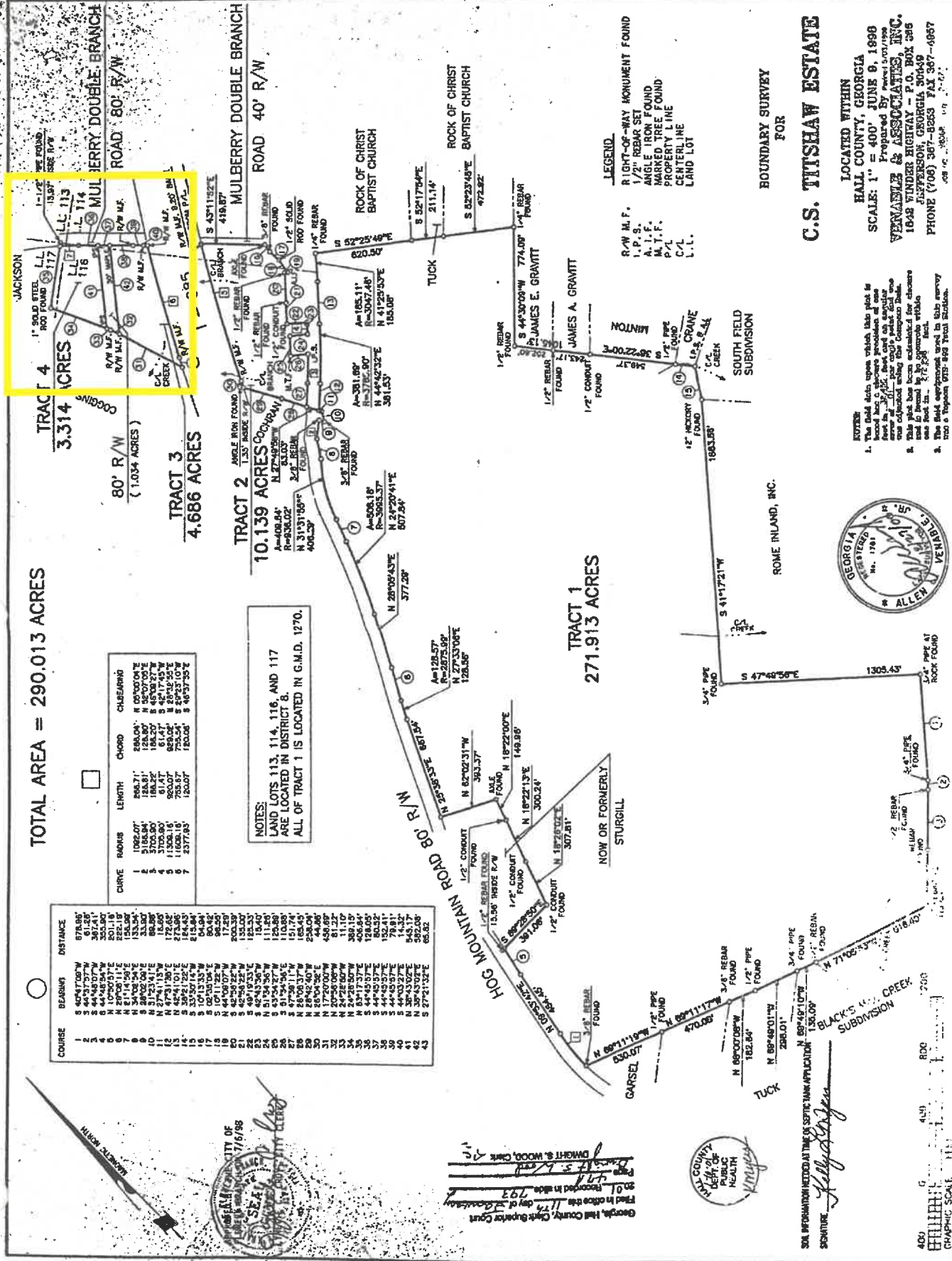
Survey

TOTAL AREA = 290.013 ACRES

COURSE	BEARING	DISTANCE
1	S 80°47'00"W	878.68'
2	S 81°12'30"W	361.26'
3	S 44°45'00"W	355.90'
4	S 44°45'00"W	355.90'
5	N 10°00'00"E	201.18'
6	N 10°00'00"E	155.00'
7	N 10°00'00"E	155.00'
8	N 34°00'00"E	155.00'
9	N 34°00'00"E	155.00'
10	N 34°00'00"E	155.00'
11	N 34°00'00"E	155.00'
12	N 34°00'00"E	155.00'
13	N 34°00'00"E	155.00'
14	N 34°00'00"E	155.00'
15	N 34°00'00"E	155.00'
16	N 34°00'00"E	155.00'
17	N 34°00'00"E	155.00'
18	N 34°00'00"E	155.00'
19	N 34°00'00"E	155.00'
20	N 34°00'00"E	155.00'
21	N 34°00'00"E	155.00'
22	N 34°00'00"E	155.00'
23	N 34°00'00"E	155.00'
24	N 34°00'00"E	155.00'
25	N 34°00'00"E	155.00'
26	N 34°00'00"E	155.00'
27	N 34°00'00"E	155.00'
28	N 34°00'00"E	155.00'
29	N 34°00'00"E	155.00'
30	N 34°00'00"E	155.00'
31	N 34°00'00"E	155.00'
32	N 34°00'00"E	155.00'
33	N 34°00'00"E	155.00'
34	N 34°00'00"E	155.00'
35	N 34°00'00"E	155.00'
36	N 34°00'00"E	155.00'
37	N 34°00'00"E	155.00'
38	N 34°00'00"E	155.00'
39	N 34°00'00"E	155.00'
40	N 34°00'00"E	155.00'
41	N 34°00'00"E	155.00'
42	N 34°00'00"E	155.00'
43	N 34°00'00"E	155.00'

CURVE	RADIUS	LENGTH	CHORD	CHORD BEARING
1	1082.07'	886.71'	284.04'	N 0°00'00"E
2	5106.94'	128.80'	128.80'	N 30°00'00"E
3	3700.80'	128.80'	128.80'	N 30°00'00"E
4	3700.80'	128.80'	128.80'	N 30°00'00"E
5	11304.16'	980.07'	980.07'	N 28°12'55"E
6	11304.16'	980.07'	980.07'	N 28°12'55"E
7	11304.16'	980.07'	980.07'	N 28°12'55"E
8	11304.16'	980.07'	980.07'	N 28°12'55"E
9	11304.16'	980.07'	980.07'	N 28°12'55"E
10	11304.16'	980.07'	980.07'	N 28°12'55"E

NOTES:
LAND LOTS 113, 114, 116, AND 117
ARE LOCATED IN DISTRICT 8.
ALL OF TRACT 1 IS LOCATED IN G.M.D. 1270.



LEGEND
RIGHT-OF-WAY MONUMENT FOUND
1/2" REBAR SET
ANGLE IRON FOUND
MARKED TREE FOUND
PROPERTY LINE
CENTERLINE
LAND LOT

BOUNDARY SURVEY
FOR
C.S. TITSHAW ESTATE

LOCATED WITHIN
HALL COUNTY, GEORGIA
SCALE: 1" = 400'
Prepared by JUNE 9, 1990
VENABLE & ASSOCIATES, INC.
1643 VINDER HIGHWAY - P.O. BOX 285
JEFFERSON, GEORGIA 30649
PHONE (706) 387-8253 FAX 387-4857



NOTES:
1. The field data upon which this plat is based has been checked and found to be correct. The survey was conducted using the Compass Rule.
2. This plat has been calculated for closure and is found to be correct within the limits of the survey.
3. The field notes used in this survey may be found in the office of the surveyor.

George, Hall County, Clerk Superior Court
Find in office this 11th day of December 1993
Recorded in the 193
Dwight S. Wood, Clerk



SEALED INFORMATION RECORDED AT THE CLERK'S OFFICE
SIGNATURE: *Allen S. Venable*

GRAPHIC SCALE
400' 800' 1600'

Site Plan

GENERAL NOTES:

1. TOTAL ALLOTMENT - 8.0 ACRES
2. PROPOSED LOTS - 55
3. DENSITY - 47.5 UNITS/ACRE
4. PROPOSED COMMON AREAS - 1.0 ACRES
5. PROPOSED ZONING - R3 TOWNHOMES

GRAPHIC SCALE



BLDG	UNIT	AREA
A	1	10.0
B	1	10.0
C	1	10.0
D	1	10.0
E	1	10.0
F	1	10.0
G	1	10.0
H	1	10.0
I	1	10.0
J	1	10.0
K	1	10.0
TOTAL		55



34.6 Development Statistical Requirements

Development Statistical Requirements

- a) Maximum and proposed height of any structure

30'/28'

- b) Maximum and proposed gross square footage of the building area (nonresidential only)

N/A

- c) Color renderings of any proposed structures

Renderings attached

- d) Material list (with percentages) of any proposed structures

Masonry: 10%, Hardy Plank: 66%, Glass: 24%

- e) Maximum and proposed number of dwelling units and minimum and proposed square footage of heated floor area for any dwelling unit (residential only)

55 Units/ 1800 SF

- f) Maximum and proposed lot coverage of building area (square feet and percent)

1200 SF, 19% per lot. 1200 SF x 55 Lots = 66,000 SF

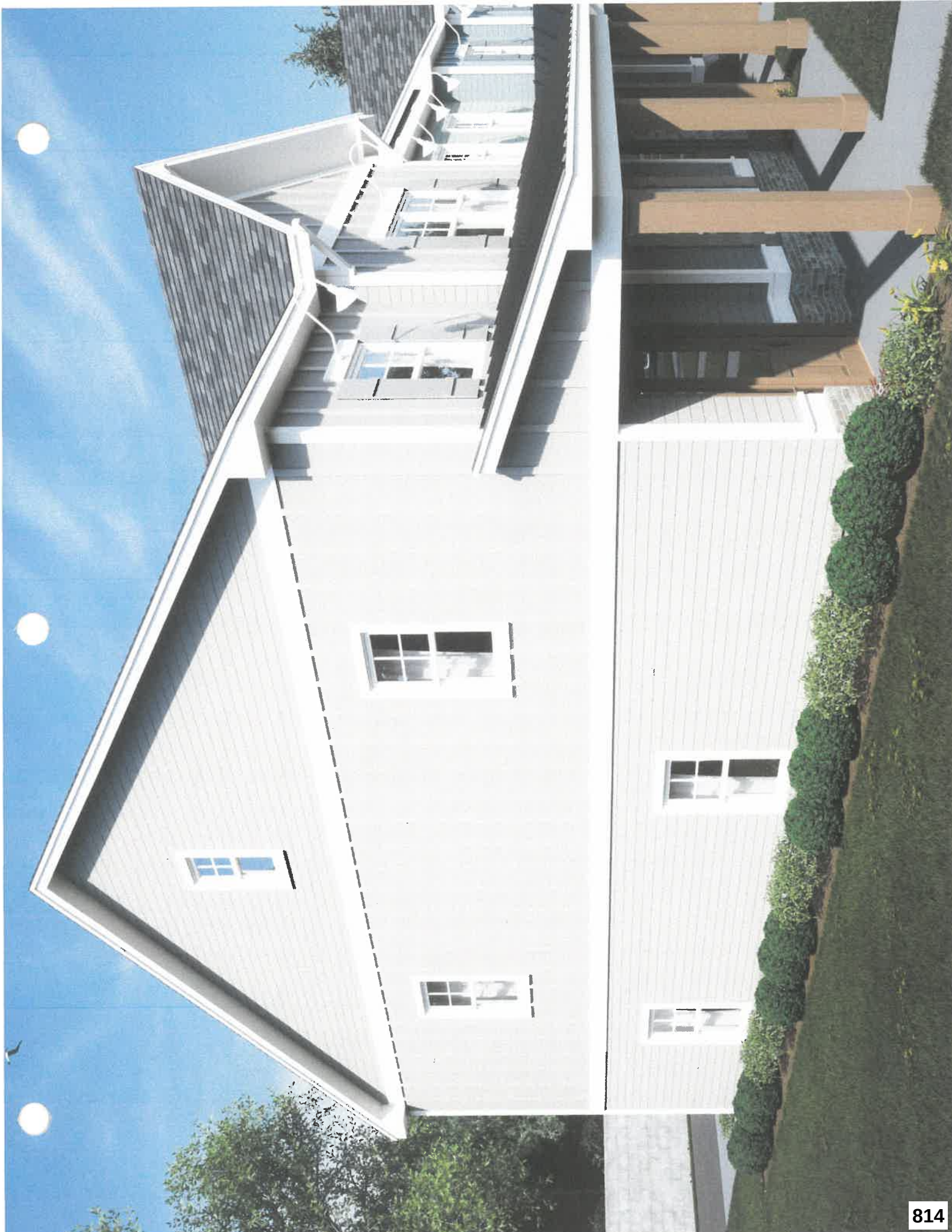
- g) Minimum and proposed square footage of landscaped area (square feet and percent)

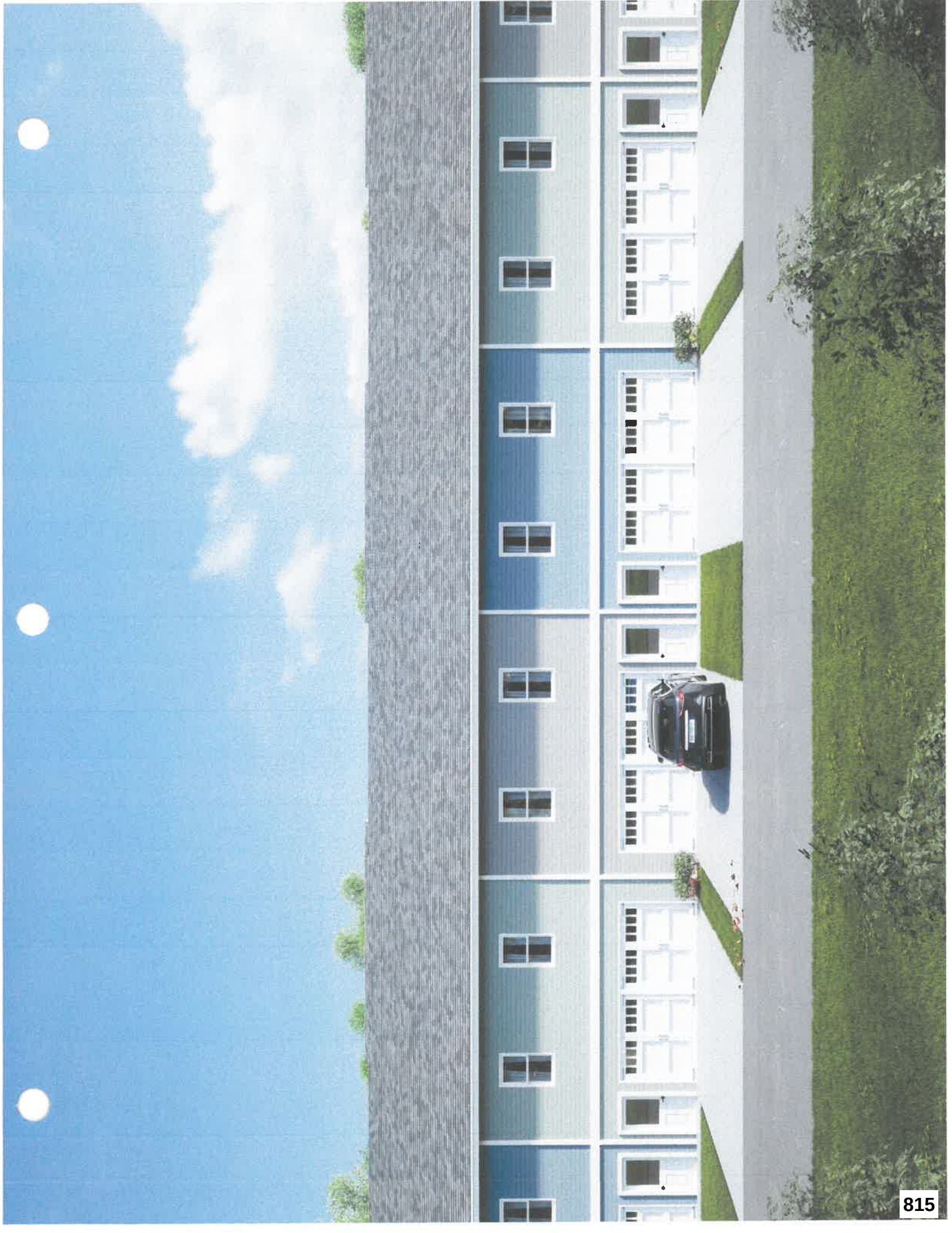
153,182 SF out of 348,480 SF, 44%

- h) Minimum, maximum, and proposed number of parking spaces.

31 Proposed parking spaces









34.7 Analysis Requirements

Analysis Requirements

- a) Whether the proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.

The adjacent property is R3 and the proposed R3 is suitable of nearby property.

- b) Whether the proposal will adversely affect the existing use or usability of adjacent or nearby property.

The planned R3 zoning will have no negative impact on the neighboring property's current use.

- c) Whether the property to be affected by the proposal can be used in accordance with the existing regulations and has a reasonable economic use as currently zoned.

No, the land is currently designated R2 and does not have a reasonable economic purpose.

- d) Whether the proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.

The proposed zoning of R3, for a planned 55 townhomes development, would not result in an excessive or burdensome use of roadways, infrastructure, utilities, or schools.

- e) Whether the proposal is in conformity with the policy and intent of the comprehensive plan including but not limited to the character area map and future land use plan map.

The City's Comprehensive Plan shows the area being mixed use and would be consistent with the overall plan.

- f) Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposal.

This development will help grow the community and give Flowery Branch visibility from the Interstate.

- g) Existing use(s) and zoning of the subject property and nearby properties.

Within the Immediate Area, there are both commercial and residential uses.

- h) Existing value of the property under the existing zoning district classification, the extent to which the property value of the subject property is diminished by the existing zoning district, and the value of the property under the proposed zoning district; if such information is provided by the applicant or can be discerned. This consideration may include the length of time the property has been vacant or unused as currently zoned and efforts taken by the property owner(s) to use the property or sell the property under the existing zoning district classification.

The property has been vacant, due to the topography, lot size, and layout.

- i) Whether a proposed zoning map amendment or conditional use

approval will be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations.

This development would not prevent neighboring properties from being improved. It will expand Flowery Branch's housing possibilities.

- j) The possible creation of an isolated zoning district unrelated to adjacent and nearby districts.

This would not create an isolated zoning district. This development will be zoned the same as its adjoining properties.

- k) Possible effects of the change in zoning district map, or change in use, on the character of a zoning district.

There would be no negative effects in change to zoning map or use.

- l) The possible impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality.

The development will be designed in accordance with the Georgia Soil and Water Conservation Commission and would have minimal effects.

m) The relation that the proposed map amendment or conditional use bears

to the purpose of the overall zoning scheme and the purposes of this Zoning Ordinance.

This region is designated as mixed-use on the Comprehensive Map. The suggested plan will fulfill the zoning ordinance's objectives.

Adjacent Property Owners

Adjacent Property Owners

Mulberry Street Rezoning

R2-R3

08117 002001

ADVENTURES REAL ESTATE LLC

6000 WELLSRING TRAIL

GAINESVILLE, GA 30506

Additional Information Requirement



REZONING ADDITIONAL INFORMATION REQUIREMENT

Date: 4/11/2022

Address of Request:

5674 & 5740 Mulberry Street

Tax Map # 08116 000022 & 08116 000023 Current Zoning: R2- Residential

Please submit an analysis of the proposed project including:

1. Value of improvements upon complete build out.
Approximately \$13,750,000
2. Property tax valuation based upon existing millage rate (indicate total tax expectation if project is phased).
3. Schedule of the total build out (showing a timeline of construction in months/years if project is phased).

Approximately 24 months

4. Anticipated total square footage (heated) to be built in the requested number of units.

Approximately 99,000 sf for 55 units

5. Total acreage developed with units.

8.00 Acres

6. Total acreage for right of way and roads.

1610 LF x 50 foot ROW= 80,500 SF = 1.8480257 acres in ROW This ROW is already owned by City of Flowery Branch



7. Total acreage of open space/common area (include plan for maintenance of open space/common area).

4.97 acres

8. Acreage required for buffer and watershed protection.
- Does the buffer comply with the current City ordinance? Yes
 - Do individual property lines for lots extend into the buffer? - Does the Developer intend to dedicate any of the site area to the City? If so, for what purpose?

No

9. Does your proposal consider Multi Transportation alternatives? (Please describe in detail)

None

10. Please identify all amenities and total number of acres they incorporate by complete description.

Park, natural areas, open space 4.97 acres

11. Number of streetlights and separation table as proposed on your site plan.
- Approximately 17

12. Will Technology Development be included in this development?

Internet/Fiber/TV

13. List the total linear feet and cubic yards for sidewalks.

1610 LF x 2 LF= 3220 LF x 5 LF =16,100 SF X .33 FT = 197 CY

14. Are appropriate storm water controls provided in your proposal? Are these controls completely and accurately reflected on all drawings and plans?

Yes, conceptual ponds only, remaining to be finalized after rezoning.



15. Has a transportation/traffic study been done to predict the impact of anticipated traffic? Has the project been reviewed by all appropriate County and State agencies relating to transportation issues?

No

16. Does the proposal provide for utilization of “reuse” water? Is this depicted on the plans? Do the plans provide for storage of “reuse” water?

No

17. What is the total capacity for daily Wastewater Management?

300 GPD/unit

18. What is the anticipated maximum daily water consumption? Are low flow fixtures required by the development?

300 GPD/unit

19. Has a slope and grade study been done on this development? Does the study reflect density placement?

Preliminary site plan with topo

20. Please identify what public safety needs are being considered for the project?

N/A

21. Has the Hall County School System been notified of the proposed density for this project?

No

22. Please provide a copy of all private covenants and/or architectural guidelines to be filed regarding this development.

Included in letter of intent.



23. Information as required under Ordinance No. 349 for preliminary plat approval if rezoning involves subdivision. Ordinance No. 349 can be found at www.flowerlybranchga.org

CITY STAFF ONLY

Permit Issued By: _____

Date: _____ Total Fee: _____

Inspection Form

I, Shirley L Titshaw, General Partner for Charles D & Shirley L Titshaw Family, L
owner of parcels 08116 000022 & 08116 000023, hereby grant the City of Flowery Branch Staff
and/or City Council to inspect the above Subject Property as necessary for rezoning application
process.

Shirley L Titshaw

Printed Name:

Shirley L Titshaw

4-14-22

Signature, Date:



Mark S. Pass
4-14-22



Mulberry Street Townhomes

Parcel 08116 000022

Chattahoochee Construction Managers

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Letter of Intent

4/11/2022

City of Flowery Branch
Community Development
PO Box 757
Flowery Branch, Georgia 30542

Rich Atkinson
Director of Planning and Community Development:

Mulberry Street Tract (Parcel Numbers 08116 000022, 08116 000023)

Dear Mr. Atkinson:

Please let this letter serve as our letter of intent to accompany our Rezoning Application for the project located at 5674 & 5740 Mulberry Street. The proposed use for the property is for an 8-acre attached townhome development. We are proposing 55 attached townhomes, yielding a density of 6.875 units per acre. We are requesting the subject property to be rezoned from the existing R2- Residential to R3 Residential Multi-Family District.

Architecture	• Brick, stone, and/or concrete siding will be used on all facades. • A minimum of 2 feet of brick or stone above the ground line is required • Architectural Shingles • Two Car Garage Minimum
Driveways	• Driveway width minimum 16 feet
Landscape Strip	• 10-foot landscape strip alongside Mulberry Street w/ shrubs and trees every 50 feet
Landscaping	• A mandatory HOA provides all grass and common area upkeep. • Front, Rear, and Side yards shall be sodded • Landscape Entrance
Proposed Amenities	• Common Areas • Park Area
Proposed Buffer	• 20 Foot Natural Undisturbed Buffer adjacent to residentially zoned properties as shown on the Zoning Exhibit

Setbacks Minimum Lot & Square Footage	Townhome- As shown on concept plan, 1800 SF
Sidewalks	Internal streets will be five feet wide.
Townhome Square Footage	1,800 Square Feet Minimum

We feel that our project supports the recommendations laid out in the Comprehensive Plan by providing an affordable 55-unit townhome community that incorporates design elements that embrace the historical foundation of the City of Flowery Branch.

We appreciate your time and thought in considering this rezoning proposal, and please do not hesitate to contact us with any concerns.

Sincerely,

Chris Fowler



Rezoning Application: City of Flowery Branch Mulberry Street



REZONING APPLICATION

Date: 4/11/2022

Address of Request:

Mulberry Street Tract (Parcel Numbers 08116 000022)

Tax Map # See Above **Current Zoning:** R2

Is this site located within the boundaries of the historic district? No

Currently a conforming use? Yes

Any conditions of zoning, CUP's, etc.? N/A

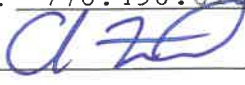
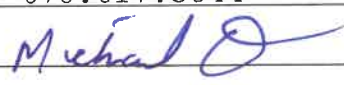
Applicant Information

Name: Chattahoochee Construction Managers, LLC / MQ Development, LLC

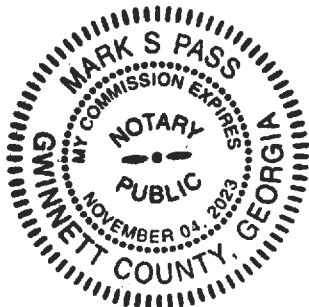
Address: 4111 Commerce St. Suite 400 Flowery Branch, Ga 30542
4111 Commerce St. Suite 400 Flowery Branch, Ga 30542

E-mail address: cfowler316@aol.com mqdev86@gmail.com

Phone number: 770.490.0163 678.617.5844

Signature:  

Notary:



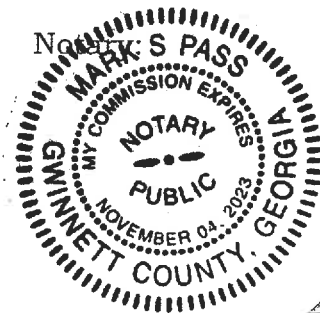
Mark S. Pass
4-11-22



Property owner information (if different than the applicant)

Property owner (please print): Charles D & Shirley L Titshaw Family, L P

Signature of property owner: Shirley L. Titshaw General Partner



Mark S. Pass
4-14-22

Property Information

Tax Map Number: Parcels (08116 000022)

Current Zoning: R2- Residential Total Acres: 4.686

Is this property located within the city limits of Flowery Branch? Yes

Proposed City of Flowery Branch Zoning: R3- Residential

Current Use: Vacant

Please review the Flowery Branch Code of Ordinances, Appendix C, "Zoning Ordinance", Article 34, for complete requirements.

Please provide the following at time of submittal in (one hard copy and digitally):

- Legal description
- Current survey of property



- Site plan shall meet the requirements of the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.5
- Development statistics per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.6
- Analysis requirements per the Flowery Branch Code of Ordinances; Appendix C, "Zoning Ordinance", Article 34 sections 34.7
- Detailed description of request
- Conflict of interest disclosure (attached)
- Disclosure of campaign contributions (attached)
- Names and addresses of adjoining property owners
- Reasons for requesting rezoning
- Signed statement authorizing City of Flowery Branch staff and/or City Council to inspect the subject property

Conflict of Interest Disclosure

Identify all members of the City Council of the City of Flowery Branch and Employees of the City of Flowery Branch Community Development Department who

Have a property interest in the real property affected by this request

None

Have a financial interest (direct ownership interest) of the total assets or capital stock of a business entity where such ownership interest is more than 10% in any business entity which has a property interest in the real property affected by this request

None

Have a member of the family (spouse, mother, father, brother, sister, son or daughter) having a property financial interest as herein defined, in the real property affected by this request

None



Disclosure of Campaign Contributions

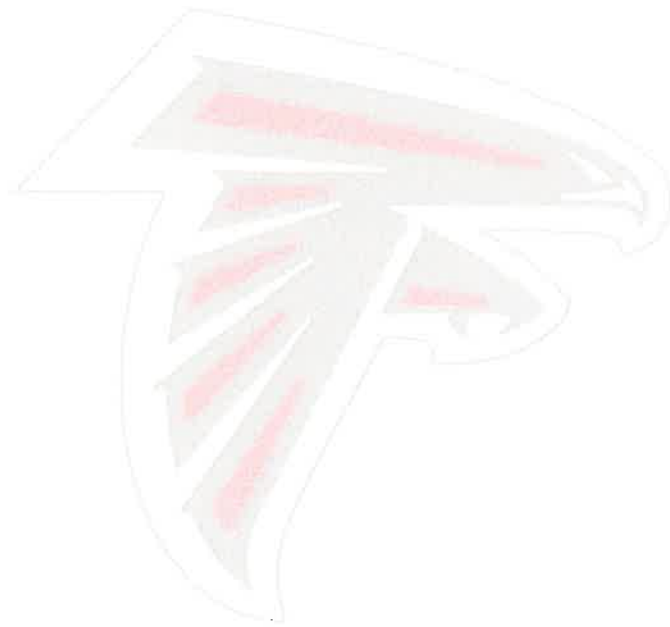
List below the names of local government officials of the City of Flowery Branch to whom campaign contributions were made, within two (2) years immediately preceding the filing of this application, which campaign contributions total \$250.00 or more or to whom gifts were made having a total value of \$250.00 or more.

Elected Officials Name	Amount of Description of Gift
None	

CITY STAFF ONLY

Application Received By: _____

Date: _____ Total Fee: _____



Legal Description

Legal Description Parcel 08116 000022

All that tract or parcel of land lying and being located in Tax Parcel No. 08116 000022 of the City of Flowery Branch, Hall County, Georgia containing 4.686 acres according to a survey for C.S Titshaw Estate, prepared by Venable & Associates, Inc, by Allen L. Venable, LS (Georgia Registered Land Surveyor No. 1761) dated December 27th, 2000, and being more particularly described according to said survey as follows.

Beginning at the Marker Found inside the DOT R/W of I- 985 at the corner of the property Thence a curve to the left, having a LC of 755.67 feet and a bearing of 29° 23' 10"; Thence South 27° 21' 32" West a distance of 65.82 feet; Thence North 17° 20' West a distance of 456.69 feet; Thence North 38° 43' 02" East a distance of 582.08 feet; Thence South 44° 45' 57" East a distance of 152.41 feet; Thence South 44° 45' 57" East a distance of 79.91 feet; Thence South 44° 03' 27" East a distance of 14.32 feet, to the point of beginning; Containing 4.686 acres.

Survey

TOTAL AREA = 290.013 ACRES

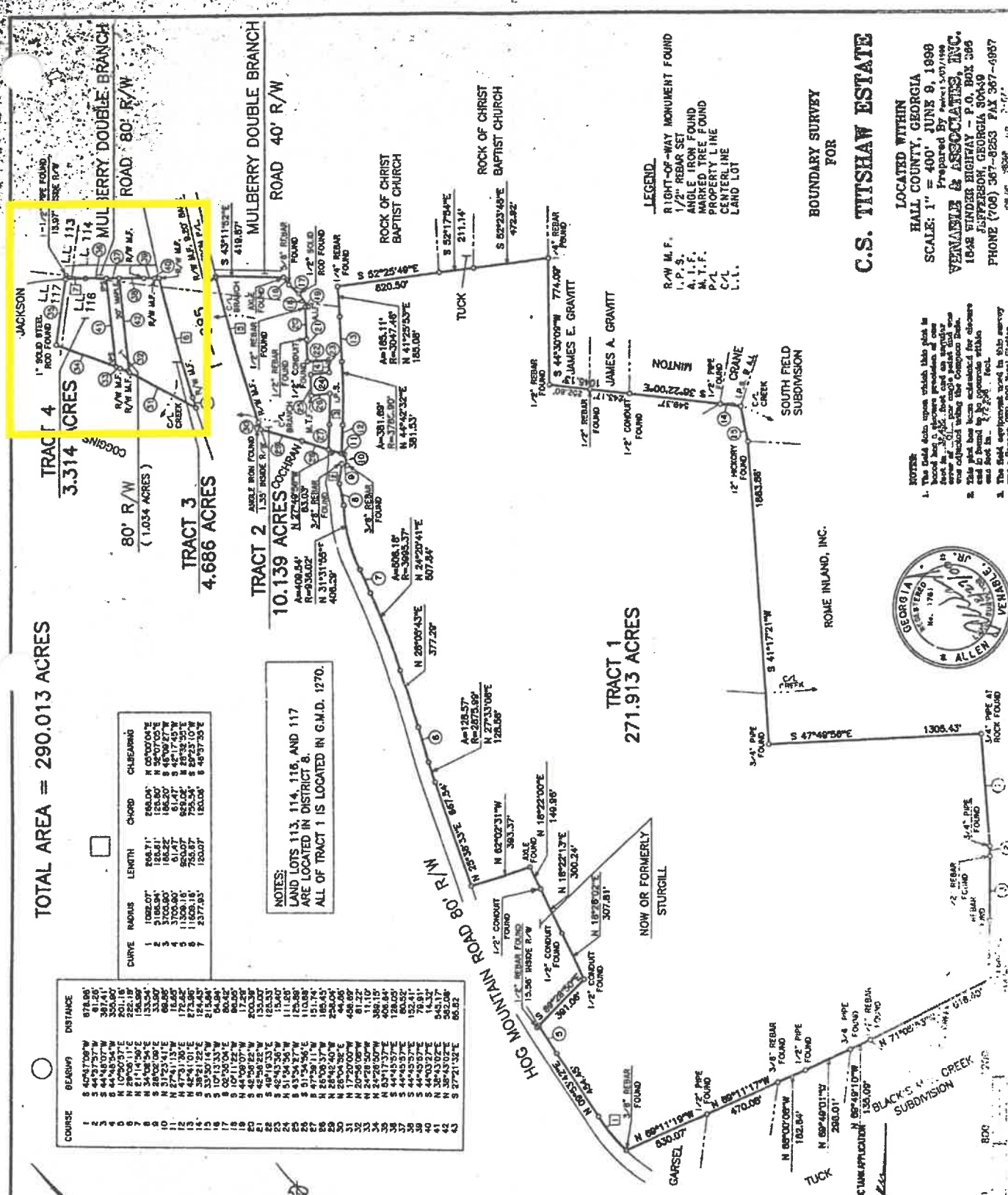
COURSE	BEARING	DISTANCE
1	S 40°37'00"W	878.96'
2	S 81°41'00"W	381.41'
3	S 44°40'00"W	355.00'
4	N 10°00'00"E	100.00'
5	N 24°00'00"E	333.54'
6	N 34°00'00"E	333.54'
7	N 47°31'30"E	172.42'
8	N 47°31'30"E	172.42'
9	N 47°31'30"E	172.42'
10	N 47°31'30"E	172.42'
11	N 47°31'30"E	172.42'
12	N 47°31'30"E	172.42'
13	N 47°31'30"E	172.42'
14	N 47°31'30"E	172.42'
15	N 47°31'30"E	172.42'
16	N 47°31'30"E	172.42'
17	N 47°31'30"E	172.42'
18	N 47°31'30"E	172.42'
19	N 47°31'30"E	172.42'
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24	N 47°31'30"E	172.42'
25	N 47°31'30"E	172.42'
26	N 47°31'30"E	172.42'
27	N 47°31'30"E	172.42'
28	N 47°31'30"E	172.42'
29	N 47°31'30"E	172.42'
30	N 47°31'30"E	172.42'
31	N 47°31'30"E	172.42'
32	N 47°31'30"E	172.42'
33	N 47°31'30"E	172.42'
34	N 47°31'30"E	172.42'
35	N 47°31'30"E	172.42'
36	N 47°31'30"E	172.42'
37	N 47°31'30"E	172.42'
38	N 47°31'30"E	172.42'
39	N 47°31'30"E	172.42'
40	N 47°31'30"E	172.42'
41	N 47°31'30"E	172.42'
42	N 47°31'30"E	172.42'
43	N 47°31'30"E	172.42'

NOTES:
LAND LOTS 113, 114, 116, AND 117
ARE LOCATED IN DISTRICT 8.
ALL OF TRACT 1 IS LOCATED IN G.M.D. 1270.

Georgia, Hall County, Clerk
Filed in office this 11th day of December, 1993
Dwight S. Wood, Clerk



ALL INFORMATION HEREON IS SUBJECT TO THE FOLLOWING:
SIGNATURE: *[Signature]*
DATE: 12/11/93
GRAPHIC SCALE: 1" = 400'



BOUNDARY SURVEY FOR
C.S. TITSHAW ESTATE
LOCATED WITHIN
HALL COUNTY, GEORGIA
SCALE: 1" = 400' JUNE 9, 1998
Prepared by: *[Signature]*
VENABLE & ASSOCIATES, INC.
1048 BINDER HIGHWAY - P.O. BOX 386
JACKSONVILLE, GEORGIA 30439
PHONE (706) 367-8253 FAX 367-6957



NOTES:
1. The field data upon which this plan is based has been obtained from a survey conducted by the Georgia Department of Public Health. The plan is subject to the provisions of the Georgia Surveying Act of 1967, as amended.
2. This plan has been prepared for the use of the TITSHAW ESTATE and is not to be used for any other purpose without the written consent of the Surveyor.
3. The field data upon which this plan is based has been obtained from a survey conducted by the Georgia Department of Public Health.

Site Plan

GENERAL NOTES

1. TOTAL ACRES: 1.80 ACRES
2. PROPOSED UNITS: 55
3. DENSITY: 4.1 UNITS/ACRE
4. ZONING: R-3 TOWNHOMES
5. PROPOSED ZONING: R-3 TOWNHOMES

GRAPHIC SCALE



BLDG	UNITS
A	6
B	3
C	6
D	12
E	6
F	6
G	6
H	4
I	4
J	6
K	6
TOTAL	55



34.6 Development Statistical Requirements

Development Statistical Requirements

- a) Maximum and proposed height of any structure

30'/28'

- b) Maximum and proposed gross square footage of the building area (nonresidential only)

N/A

- c) Color renderings of any proposed structures

Renderings attached

- d) Material list (with percentages) of any proposed structures

Masonry: 10%, Hardy Plank: 66%, Glass: 24%

- e) Maximum and proposed number of dwelling units and minimum and proposed square footage of heated floor area for any dwelling unit (residential only)

55 Units/ 1800 SF

- f) Maximum and proposed lot coverage of building area (square feet and percent)

1200 SF, 19% per lot. 1200 SF x 55 Lots = 66,000 SF

- g) Minimum and proposed square footage of landscaped area (square feet and percent)

153,182 SF out of 348,480 SF, 44%

- h) Minimum, maximum, and proposed number of parking spaces.

31 Proposed parking spaces









34.7 Analysis Requirements

Analysis Requirements

- a) Whether the proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.

The adjacent property is R3 and the proposed R3 is suitable of nearby property.

- b) Whether the proposal will adversely affect the existing use or usability of adjacent or nearby property.

The planned R3 zoning will have no negative impact on the neighboring property's current use.

- c) Whether the property to be affected by the proposal can be used in accordance with the existing regulations and has a reasonable economic use as currently zoned.

No, the land is currently designated R2 and does not have a reasonable economic purpose.

- d) Whether the proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.

The proposed zoning of R3, for a planned 55 townhomes development, would not result in an excessive or burdensome use of roadways, infrastructure, utilities, or schools.

- e) Whether the proposal is in conformity with the policy and intent of the comprehensive plan including but not limited to the character area map and future land use plan map.

The City's Comprehensive Plan shows the area being mixed use and would be consistent with the overall plan.

- f) Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposal.

This development will help grow the community and give Flowery Branch visibility from the Interstate.

- g) Existing use(s) and zoning of the subject property and nearby properties.

Within the Immediate Area, there are both commercial and residential uses.

- h) Existing value of the property under the existing zoning district classification, the extent to which the property value of the subject property is diminished by the existing zoning district, and the value of the property under the proposed zoning district; if such information is provided by the applicant or can be discerned. This consideration may include the length of time the property has been vacant or unused as currently zoned and efforts taken by the property owner(s) to use the property or sell the property under the existing zoning district classification.

The property has been vacant, due to the topography, lot size, and layout.

- i) Whether a proposed zoning map amendment or conditional use

approval will be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations.

This development would not prevent neighboring properties from being improved. It will expand Flowery Branch's housing possibilities.

- j) The possible creation of an isolated zoning district unrelated to adjacent and nearby districts.

This would not create an isolated zoning district. This development will be zoned the same as its adjoining properties.

- k) Possible effects of the change in zoning district map, or change in use, on the character of a zoning district.

There would be no negative effects in change to zoning map or use.

- l) The possible impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality.

The development will be designed in accordance with the Georgia Soil and Water Conservation Commission and would have minimal effects.

m) The relation that the proposed map amendment or conditional use bears

to the purpose of the overall zoning scheme and the purposes of this Zoning Ordinance.

This region is designated as mixed-use on the Comprehensive Map. The suggested plan will fulfill the zoning ordinance's objectives.

Adjacent Property Owners

Adjacent Property Owners

Mulberry Street Rezoning

R2-R3

08117 002001

ADVENTURES REAL ESTATE LLC

6000 WELLSRING TRAIL

GAINESVILLE, GA 30506

Additional Information Requirement



REZONING ADDITIONAL INFORMATION REQUIREMENT

Date: 4/11/2022

Address of Request:

5674 & 5740 Mulberry Street

Tax Map # (08116 000022 & 08116 000023) Current Zoning: R2- Residential

Please submit an analysis of the proposed project including:

1. Value of improvements upon complete build out.
Approximately \$13,750,000
2. Property tax valuation based upon existing millage rate (indicate total tax expectation if project is phased).
3. Schedule of the total build out (showing a timeline of construction in months/years if project is phased).
Approximately 24 months
4. Anticipated total square footage (heated) to be built in the requested number of units.
Approximately 99,000 sf for 55 units
5. Total acreage developed with units.
8.00 Acres
6. Total acreage for right of way and roads.
1610 LF x 50 foot ROW= 80,500 SF = 1.8480257 acres in ROW This ROW is already owned by City of Flowery Branch



7. Total acreage of open space/common area (include plan for maintenance of open space/common area).

4.97 acres

8. Acreage required for buffer and watershed protection.
- Does the buffer comply with the current City ordinance? Yes
 - Do individual property lines for lots extend into the buffer? - Does the Developer intend to dedicate any of the site area to the City? If so, for what purpose?

No

9. Does your proposal consider Multi Transportation alternatives? (Please describe in detail)

None

10. Please identify all amenities and total number of acres they incorporate by complete description.

Park, natural areas, open space 4.97 acres

11. Number of streetlights and separation table as proposed on your site plan.
- Approximately 17

12. Will Technology Development be included in this development?

Internet/Fiber/TV

13. List the total linear feet and cubic yards for sidewalks.

1610 LF x 2 LF = 3220 LF x 5 LF = 16,100 SF X .33 FT = 197 CY

14. Are appropriate storm water controls provided in your proposal? Are these controls completely and accurately reflected on all drawings and plans?

Yes, conceptual ponds only, remaining to be finalized after rezoning.



15. Has a transportation/traffic study been done to predict the impact of anticipated traffic? Has the project been reviewed by all appropriate County and State agencies relating to transportation issues?

No

16. Does the proposal provide for utilization of “reuse” water? Is this depicted on the plans? Do the plans provide for storage of “reuse” water?

No

17. What is the total capacity for daily Wastewater Management?

300 GPD/unit

18. What is the anticipated maximum daily water consumption? Are low flow fixtures required by the development?

300 GPD/unit

19. Has a slope and grade study been done on this development? Does the study reflect density placement?

Preliminary site plan with topo

20. Please identify what public safety needs are being considered for the project?

N/A

21. Has the Hall County School System been notified of the proposed density for this project?

No

22. Please provide a copy of all private covenants and/or architectural guidelines to be filed regarding this development.

Included in letter of intent.



23. Information as required under Ordinance No. 349 for preliminary plat approval if rezoning involves subdivision. Ordinance No. 349 can be found at www.flowerybranchga.org

CITY STAFF ONLY

Permit Issued By: _____

Date: _____ Total Fee: _____

Inspection Form

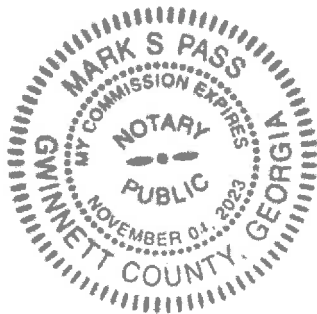
Shirley L. Titshaw, General Partner for Charles D. & Shirley L. Titshaw Family, L
owner of parcels 08116 000022 & 08116 000023, hereby grant the City of Flowery Branch Staff
and/or City Council to Inspect the above Subject Property as necessary for rezoning application
process.

Shirley L. Titshaw

Printed Name:

Shirley L. Titshaw 4-14-22

Signature, Date:



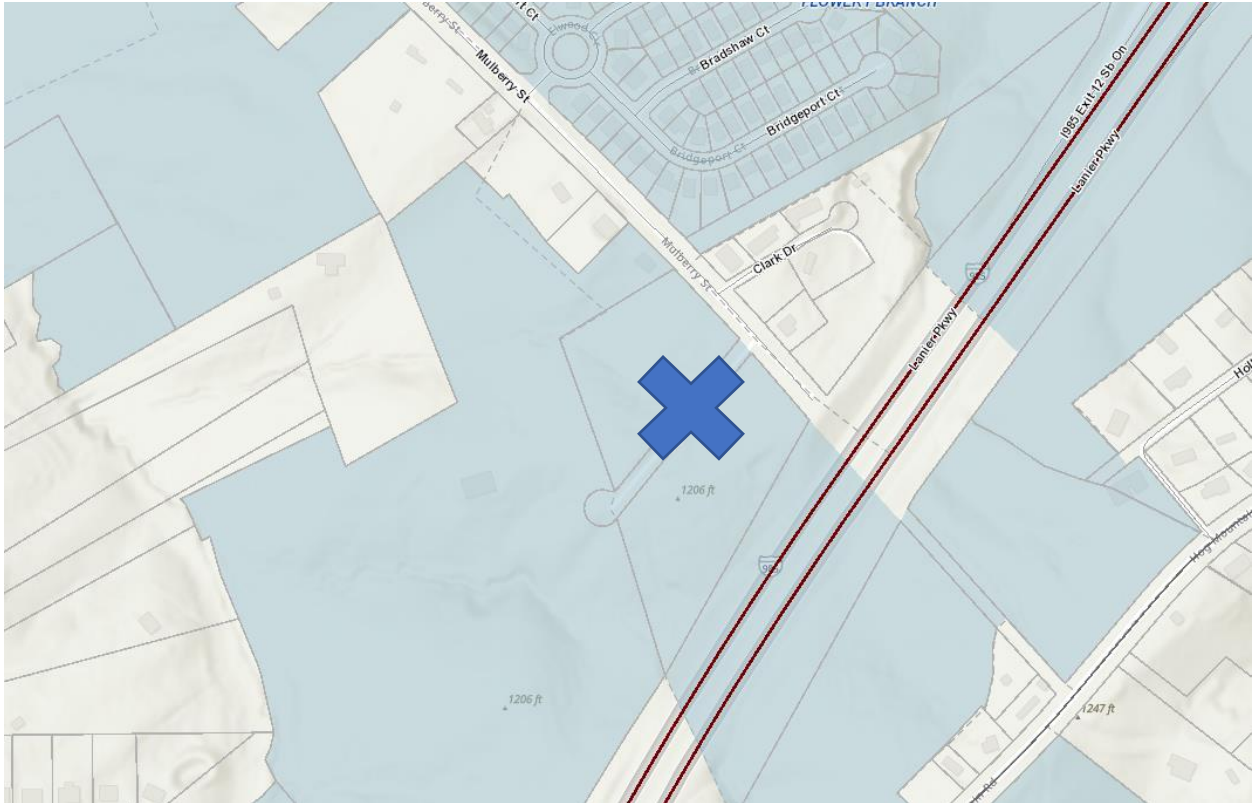
Mark S. Pass
4-14-22



Staff Report
Chattahoochee Construction Mangers, LLC/MQ Development, LLC
Rezoning Request
Ordinances 665 & 666

Request

A request from Chattahoochee Construction Managers, LLC/MQ Development, LLC to rezone two tracts of land from Residential, Detached Single-Family, Moderate-Density District (R-2) to Residential Multi-Family District (R-3). Tract one is a 3.52+/- acre tract of land identified as 5674 Mulberry Street, tax parcel number 08116 000023, tract two is a 4.7+/- acre tract of land identified as 5740 Mulberry Street, tax parcel number 08116 000022, and construct fifty-five (55) townhomes.











Proposed Schedule

June 2, 2022 – Public Hearing
July 21, 2022 – First Read and Vote
August 4, 2022 - Work Session (if requested)
August 18, 2022 – Second Read and Final Vote



Comprehensive Plan





Purpose of the Comprehensive Plan

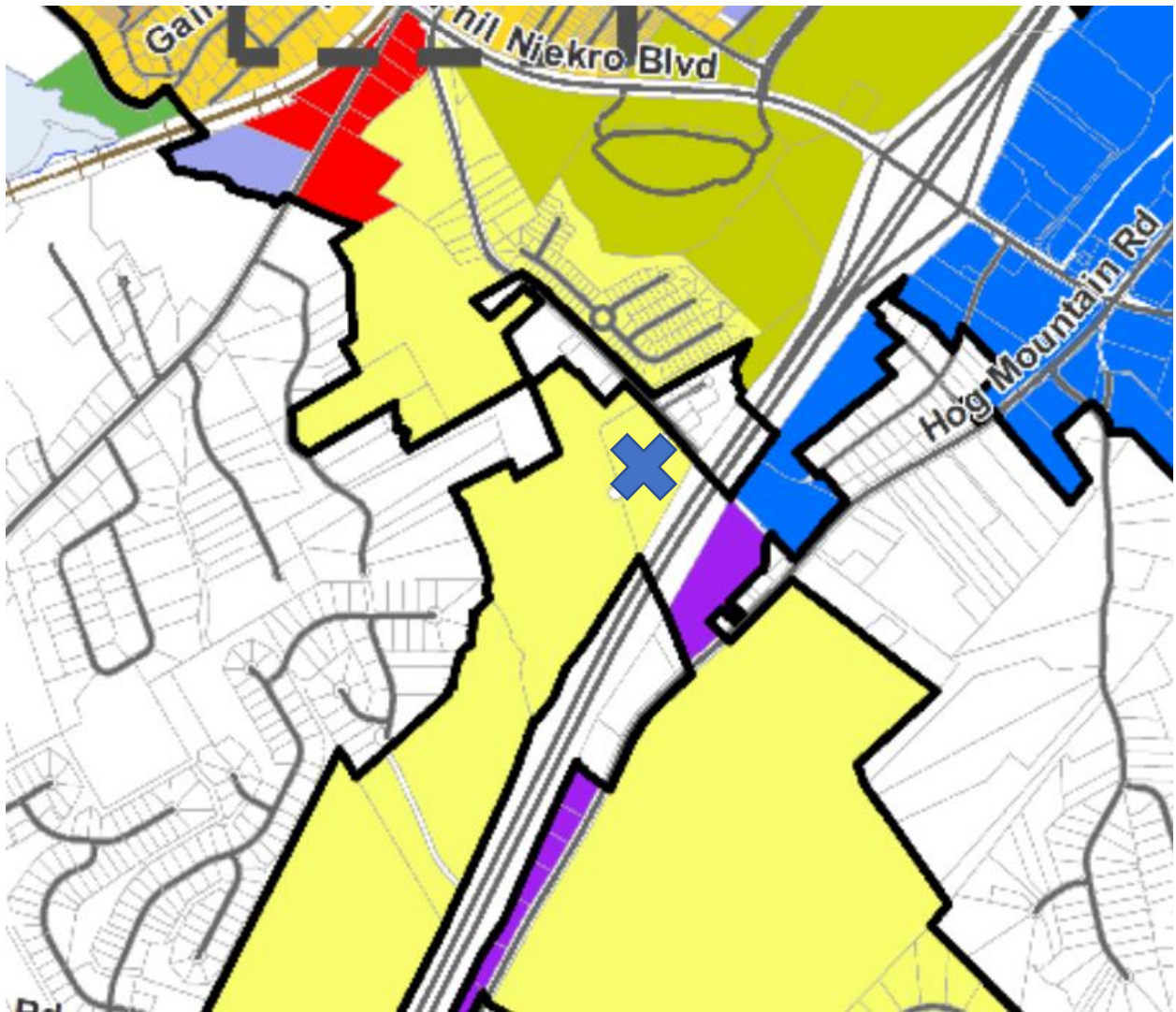
The *Flowery Branch Comprehensive Plan* is the City's policy guide for growth and development, as expressed by a vision statement, Future Development Map, character area policies, and supporting implementation strategies. The plan is most commonly used in the review and decision-making process by staff and City Council for rezoning requests, when proposals are evaluated for consistency with the Future Development Map and supporting text in this document.

The Comprehensive Plan also outlines the overall strategy for achieving the City's vision for future development by identifying a 5-year Community Work Program (CWP) with a prioritized 'to-do' list. The CWP should be consulted by staff and City Council on an annual basis when developing annual department-level work programs and the City budget.

In addition, this plan serves the purpose of meeting the intent and requirements of the Georgia Department of Community Affairs' (DCA) "Standards and Procedures for Local Comprehensive Planning," as amended on October 1, 2018. Preparation of a comprehensive plan in accordance with these standards is an essential requirement for maintaining status as a Qualified Local Government (QLG). QLG status allows Georgia cities and counties to be eligible for financial incentives from DCA, the Department of Natural Resources (DNR), the Georgia Environmental Finance Authority (GEFA), and the OneGeorgia Authority. This plan update allows the City of Flowery Branch to retain its QLG status.



Suburban Residential Area





Suburban Residential

Suburban Residential areas are located throughout the city and include locations where low- to moderate density single-family development exists or is likely to based on a property's zoning and surrounding uses.

Vision

Protect established single-family neighborhoods and create quality new residential construction at suburban densities.

Design Principles

- Larger lots (1/3 to 1 acre) with houses set back from the road
- Cul-de-sacs and curvilinear streets (that are relatively wide when compared to traditional neighborhoods) with sidewalks
- Use of high quality exterior cladding materials (that are consistent on each level of the home)
- Diverse architectural styles are allowed, but there should be compatibility in overall neighborhood design such as roof pitch, building width, and level of ornamentation
- De-emphasized garage (recessed, side or rear entry)
- Opportunities for meaningful open space, including shared areas for the benefit of residents
- In Planned Unit Developments (PUDs), deviations in lot size, building setbacks and street width may be appropriate to maximize open space and improve neighborhood design

Land Uses

- Single-family detached dwellings
- Recreational uses integrated into a neighborhood

Zoning

- R-1 Detached Single-Family, Low-Density District
- R-2 Detached Single-Family, Moderate-Density District
- PUD - Planned Unit Development District

Implementation Strategies

- Amend City's Architectural Design Standards to address residential buildings
- Update PUD requirements to enhance open space and site design requirements
- Expand code enforcement ability by increasing full-time personnel

Illustrative Photos



The proposed development does not meet the intent of the Comprehensive Plan. However, the size and scope of the proposed project would blend in with the recently approved neighboring development



(phase 1- 49 detached, 140 townhomes; phase 2-138 detached) and will not cause the desired housing mix to rise above the 15% considered by the Comprehensive Plan (single family 70%, apartments 15%, and townhomes 15%).

Analysis

Flowerly Branch Zoning Ordinance Article 37 Rezoning and Conditional Use Applications

Sec. 34.7. - Analysis Requirements.

Applications to amend the official zoning map and applications for conditional uses shall provide a written analysis comparing the proposed action with the criteria in this Section. A zoning map amendment or conditional use application may be justified only if it bears a reasonable relationship to the public health, safety, morality, or general welfare, and after consideration of the analysis requirements which may in individual cases be considered criteria relevant to Zoning Administrator in making recommendations and by the Governing Body in the decision-making process.

Staff Response:

- (a) Whether the proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property. **Yes, a residential use is appropriate for this site and the surrounding area. It will help serve the downtown commercial/retail area.**
- (b) Whether the proposal will adversely affect the existing use or usability of adjacent or nearby property. **The development will not adversely affect the area.**
- (c) Whether the property to be affected by the proposal can be used in accordance with the existing regulations and has a reasonable economic use as currently zoned. **Yes, current zoning of R-2 is economically feasible.**
- (d) Whether the proposal will result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools. **It is staff's opinion that the use will not create any unnecessary burdens.**
- (e) Whether the proposal is in conformity with the policy and intent of the comprehensive plan including but not limited to the character area map and future land use plan map. **No**
- (f) Whether there are other existing or changing conditions affecting the use and development of the property which give supporting grounds for either approval or disapproval of the proposal. **Not to staff's knowledge, no.**
- (g) Existing use(s) and zoning of the subject property and nearby properties. **Currently vacant, the proposed use will fit in with the surrounding residential uses.**



- (h) Existing value of the property under the existing zoning district classification, the extent to which the property value of the subject property is diminished by the existing zoning district, and the value of the property under the proposed zoning district; if such information is provided by the applicant or can be discerned. This consideration may include the length of time the property has been vacant or unused as currently zoned and efforts taken by the property owner(s) to use the property or sell the property under the existing zoning district classification. *Staff does not have a specific number regarding property value but please review applicant's response as part of attached "Exhibit C".*
- (i) Whether a proposed zoning map amendment or conditional use approval will be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations. *Staff does not feel that the proposed will be a deterrent but rather an enhancement to the surrounding area and a positive impact for downtown.*
- (j) The possible creation of an isolated zoning district unrelated to adjacent and nearby districts. *N/A*
- (k) Possible effects of the change in zoning district map, or change in use, on the character of a zoning district. *The proposed use will enhance the character of the existing district and surrounding area in staff's opinion.*
- (l) The possible impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality. *The development, if approved, will need to go through all the required development reviews to ensure all applicable codes and requirements are met.*
- (m) The relation that the proposed map amendment or conditional use bears to the purpose of the overall zoning scheme and the purposes of this Zoning Ordinance. *The proposed development will enhance the surrounding area and meet the intent of the Zoning Ordinance.*



Recommendation

Approve the request as submitted with the following conditions:

1. The project shall generally adhere to the site plan as shown below



2. Elevations shall be submitted and approved by the City of Flowery Branch prior to the issuance of a land disturbance permit. Said elevations shall meet all requirements of the City of Flowery Branch zoning ordinance.
3. Water and sewer shall be served by the City of Flowery Branch.
4. A homeowner's association is required.
5. A 10% rental cap shall be instituted and enforced by the HOA.
6. Project shall not exceed fifty-five (55) townhome units.



ORDINANCE 665

AN ORDINANCE AMENDING THE ZONING MAP OF THE CITY OF FLOWERY BRANCH, GEORGIA, BY REZONING A TRACT OF LAND OWNED BY THE CHARLES AND SHIRLEY TITSHAW FAMILY, LP. TOTALING 3.32 +/- ACRES COMMONLY KNOWN AS 5674 MULBERRY STREET, IDENTIFIED AS TAX PARCEL 08116 000023 AND AS SHOWN ON ATTACHED EXHIBIT "A", DESCRIBED ON ATTACHED EXHIBIT "B", TO BE REZONED FROM R-2 (DETACHED SINGLE-FAMILY, MODERATE DENSIT) TO R-3 (MULTI-FAMILY RESIDENTIAL) SUBJECT TO THE CONDITIONS SET FORTH IN EXHIBIT "C"; PROVIDING FOR SEVERABILITY, REPEALING CONFLICTING ORDINANCES, PROVIDING FOR AN EFFECTIVE DATE AND FOR ALL OTHER LAWFUL PURPOSES.

WHEREAS, Chattahoochee Construction Managers/MQ Development, LLC. desires to develop the 3.52 +/- acre tract of land identified as tax parcel 08116 000023; as shown on Exhibit "A"; and legally described on Exhibit "B"; and

WHEREAS, specific conditions shall be placed on subject property shown on attached exhibit "C"; and

WHEREAS, the City Council of the City of Flowery Branch has considered the rezoning application of Chattahoochee Construction Managers/MQ Development, LLC. in conjunction with the standards set forth in Article 34 - Section 34.7 of Zoning Ordinance No. 348 of the City of Flowery Branch, Georgia; and

WHEREAS, Chattahoochee Construction Managers/MQ Development, LLC. has submitted to the City Council of Flowery Branch, Georgia, a written and signed application requesting to be rezoned and whereas a survey and complete description of the land to be rezoned is included in the application; and

WHEREAS, the City Council held a public hearing at the meeting of June 2, 2022, duly noticed as prescribed by law and published in the Gainesville Times, regarding said application, as shall be set forth in the minutes of said meeting.

NOW THEREFORE, THE COUNCIL OF THE CITY OF FLOWERY BRANCH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. FINDINGS.

The City Council finds that the proposed rezoning of the parcel from Flowery Branch R-2 (Detached Single-Family, Moderate Density) to Flowery Branch R-3 (Residential Multi-Family) is consistent with the adopted standards for governing the exercise of the zoning power consistent with O.C.G.A. § 36-66-5 and requirements of the Zoning Ordinance as identified below.

Public Hearing Published 05/04/2022
Public Hearing 06/02/2022

First Reading 07/21/2022
Adopted 08/18/2022

1. The proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.
2. The proposal is not expected to adversely affect the existing use or usability of adjacent or nearby property.
3. The property shall be used in accordance with the existing regulations and has a reasonable economic use as currently zoned.
4. The development if approved and constructed is not expected to result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.
5. The proposal is in conformity with the policy and intent of the comprehensive plan and the character area map and future land use plan map.
6. The proposal is considered appropriate in view of existing use(s) and zoning of the subject property and nearby properties.
7. No determination has been made by staff with regard to the value differential between development under the current R-2 as opposed to the proposed R-3.
8. A proposed development will not be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations.
9. There are no known adverse effects that would result from the changes to the R-3 zoning district.
10. Development as proposed is not expected to impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality. Compliance with city subdivision and land development regulations will be required, which include but are not limited to soil erosion and sedimentation, stormwater, and flood damage prevention.

SECTION 2. LEGAL DESCRIPTION AND CONDITIONS.

The property as shown in attached Exhibit “A” and as legally described in Exhibit “B” shall be rezoned to R-3 (Residential Multi-Family). Conditions are set forth in Exhibit “C”. Said Exhibits are incorporated by reference as if fully set forth herein.

SECTION 3. AMENDMENT OF THE ZONING MAP.

Public Hearing Published 05/04/2022
Public Hearing 06/02/2022

First Reading 07/21/2022
Adopted 08/18/2022

This Ordinance is enacted as an amendment to the Zoning Map of Flowery Branch, Georgia. Accordingly, the Zoning Administrator is hereby authorized to update the Official Map consistent with Article 3 of the Zoning Ordinance.

SECTION 4. SEVERABILITY.

Should any section or provision of this Ordinance be declared invalid or unconstitutional by any court of competent jurisdiction, such declaration shall not affect the validity of this Ordinance as a whole or any part thereof which is not specifically declared to be invalid or unconstitutional.

SECTION 5. EFFECTIVE DATE.

The effective date of this Ordinance shall be upon adoption by the City Council of the City of Flowery Branch, Georgia.

SECTION 6. REPEALER.

All ordinances and parts of ordinances in conflict herewith are hereby repealed to the extent of the conflict.

Adopted this 18th day of August 2022.

Edward R. Asbridge, Mayor

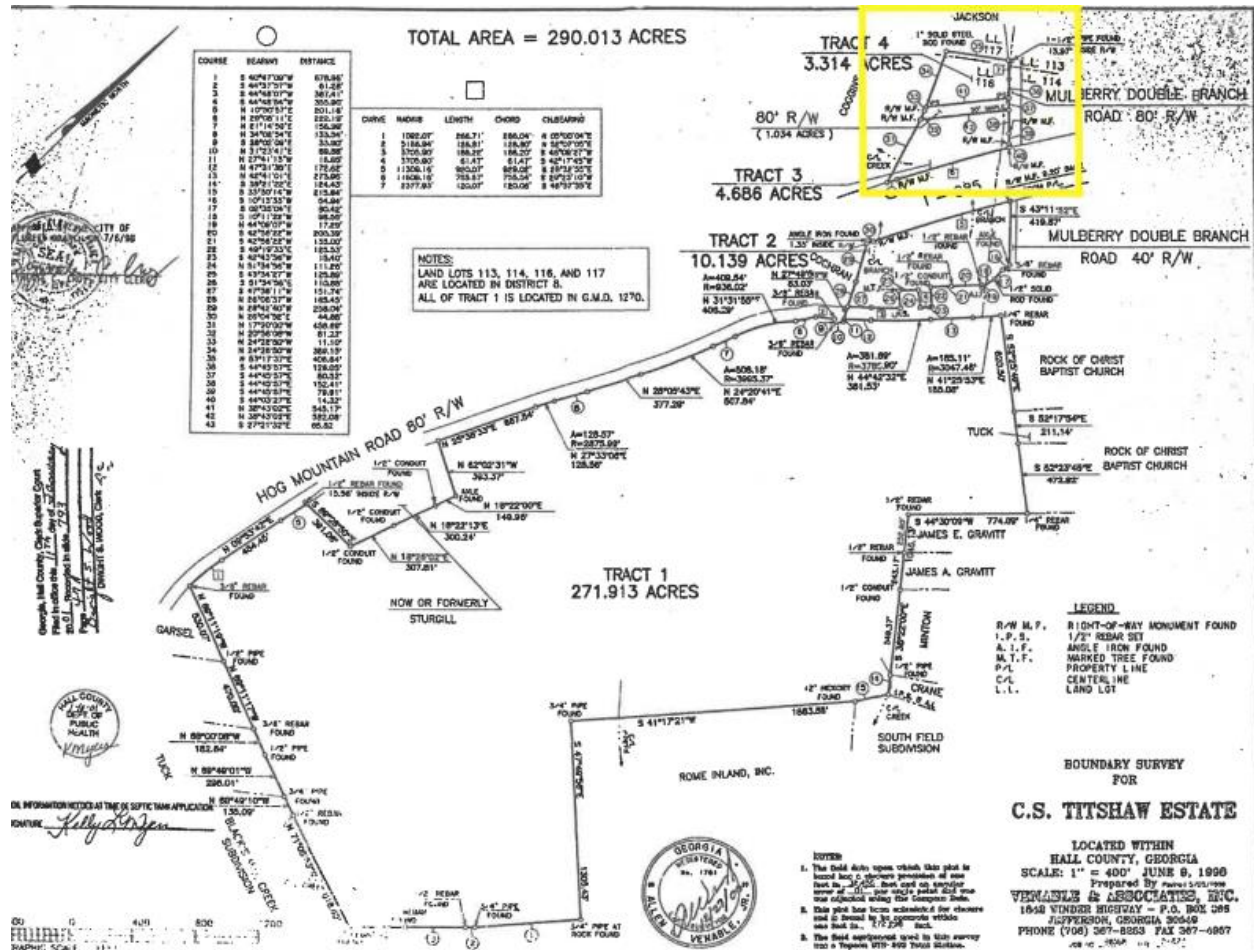
ATTEST:

Shelia R. Cooper, City Clerk

APPROVED AS TO FORM:

E. Ronald Bennett, Jr., City Attorney

Exhibit "A"



Public Hearing Published	05/04/2022	First Reading	07/21/2022
Public Hearing	06/02/2022	Adopted	08/18/2022

Exhibit "B"

Legal Description 08116 000023

All that tract or parcel of land lying and being located in Tax Parcel No. 08116 000023 of the City of Flowery Branch, Hall County, Georgia containing 4.686 acres according to a survey for C.S Titshaw Estate, prepared by Venable & Associates, Inc, by Allen L. Venable, LS (Georgia Registered Land Surveyor No. 1761) dated December 27th, 2000, and being more particularly described according to said survey as follows.

Beginning at the Marker Found inside the R/W at the corner of the property; Thence North 24° 26' 50" West a distance of 11.1 feet; Thence North 24° 26' 50" West a distance of 389.15 feet; Thence North 53° 17' 37" East a distance of 406.64 feet; Thence a curve to the right, having a LC of 120.06 feet and a bearing of 46° 37' 35"; Thence South 44° 45' 57" East a distance of 126.05 feet; Thence South 38° 43' 02" West a distance of 545.17 feet, to the point of beginning; Containing 3.314 acres.

Exhibit "C"

1. The project shall generally adhere to the site plan as shown below



2. Elevations shall be submitted and approved by the City of Flowery Branch prior to the issuance of a land disturbance permit. Said elevations shall meet all requirements of the City of Flowery Branch zoning ordinance.
3. Water and sewer shall be served by the City of Flowery Branch.
4. A homeowner's association is required.
5. A 10% rental cap shall be instituted and enforced by the HOA.
6. Project shall not exceed fifty-five (55) townhome units.

Public Hearing Published	05/04/2022
Public Hearing	06/02/2022

First Reading	07/21/2022
Adopted	08/18/2022

ORDINANCE 666

AN ORDINANCE AMENDING THE ZONING MAP OF THE CITY OF FLOWERY BRANCH, GEORGIA, BY REZONING A TRACT OF LAND OWNED BY THE CHARLES AND SHIRLEY TITSHAW FAMILY, LP. TOTALING 4.67+/- ACRES AND COMMONLY KNOWN AS 5740 MULBERRY STREET, IDENTIFIED AS TAX PARCEL 08116 000022 AND AS SHOWN ON ATTACHED EXHIBIT “A”, DESCRIBED ON ATTACHED EXHIBIT “B”, TO BE REZONED FROM R-2 (DETACHED SINGLE-FAMILY, MODERATE DENSIT) TO R-3 (MULTI-FAMILY RESIDENTIAL) SUBJECT TO THE CONDITIONS SET FORTH IN EXHIBIT “C”; PROVIDING FOR SEVERABILITY, REPEALING CONFLICTING ORDINANCES, PROVIDING FOR AN EFFECTIVE DATE AND FOR ALL OTHER LAWFUL PURPOSES.

WHEREAS, Chattahoochee Construction Managers/MQ Development, LLC. desires to develop the 4.67 +/- acre tract of land identified as tax parcel 08116 000022; as shown on Exhibit “A”; and legally described on Exhibit “B”; and

WHEREAS, specific conditions shall be placed on subject property as shown on attached exhibit “C”; and

WHEREAS, the City Council of the City of Flowery Branch has considered the rezoning application of Chattahoochee Construction Managers/MQ Development, LLC. in conjunction with the standards set forth in Article 34 - Section 34.7 of Zoning Ordinance No. 348 of the City of Flowery Branch, Georgia; and

WHEREAS, Chattahoochee Construction Managers/MQ Development, LLC. has submitted to the City Council of Flowery Branch, Georgia, a written and signed application requesting to be rezoned and whereas a survey and complete description of the land to be rezoned is included in the application; and

WHEREAS, the City Council held a public hearing at the meeting of June 2, 2022, duly noticed as prescribed by law and published in the Gainesville Times, regarding said application, as shall be set forth in the minutes of said meeting.

NOW THEREFORE, THE COUNCIL OF THE CITY OF FLOWERY BRANCH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. FINDINGS.

The City Council finds that the proposed rezoning of the parcel from Flowery Branch R-2 (Detached Single-Family, Moderate Density) to Flowery Branch R-3 (Residential Multi-Family) is consistent with the adopted standards for governing the exercise of the zoning power consistent with O.C.G.A. § 36-66-5 and requirements of the Zoning Ordinance as identified below.

Public Hearing Published 05/04/2022
Public Hearing 06/02/2022

First Reading 07/21/2022
Adopted 08/18/2022

1. The proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.
2. The proposal is not expected to adversely affect the existing use or usability of adjacent or nearby property.
3. The property shall be used in accordance with the existing regulations and has a reasonable economic use as currently zoned.
4. The development if approved and constructed is not expected to result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.
5. The proposal is in conformity with the policy and intent of the comprehensive plan and the character area map and future land use plan map.
6. The proposal is considered appropriate in view of existing use(s) and zoning of the subject property and nearby properties.
7. No determination has been made by staff with regard to the value differential between development under the current R-2 as opposed to the proposed R-3.
8. A proposed development will not be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations.
9. There are no known adverse effects that would result from the changes to the R-3 zoning district.
10. Development as proposed is not expected to impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality. Compliance with city subdivision and land development regulations will be required, which include but are not limited to soil erosion and sedimentation, stormwater, and flood damage prevention.

SECTION 2. LEGAL DESCRIPTION AND CONDITIONS.

The property as shown in attached Exhibit “A” and as legally described in Exhibit “B” shall be rezoned to R-3 (Residential Multi-Family). Conditions are set forth in Exhibit “C”. Said Exhibits are incorporated by reference as if fully set forth herein.

SECTION 3. AMENDMENT OF THE ZONING MAP.

Public Hearing Published 05/04/2022
Public Hearing 06/02/2022

First Reading 07/21/2022
Adopted 08/18/2022

This Ordinance is enacted as an amendment to the Zoning Map of Flowery Branch, Georgia. Accordingly, the Zoning Administrator is hereby authorized to update the Official Map consistent with Article 3 of the Zoning Ordinance.

SECTION 4. SEVERABILITY.

Should any section or provision of this Ordinance be declared invalid or unconstitutional by any court of competent jurisdiction, such declaration shall not affect the validity of this Ordinance as a whole or any part thereof which is not specifically declared to be invalid or unconstitutional.

SECTION 5. EFFECTIVE DATE.

The effective date of this Ordinance shall be upon adoption by the City Council of the City of Flowery Branch, Georgia.

SECTION 6. REPEALER.

All ordinances and parts of ordinances in conflict herewith are hereby repealed to the extent of the conflict.

Adopted this 18th day of August 2022.

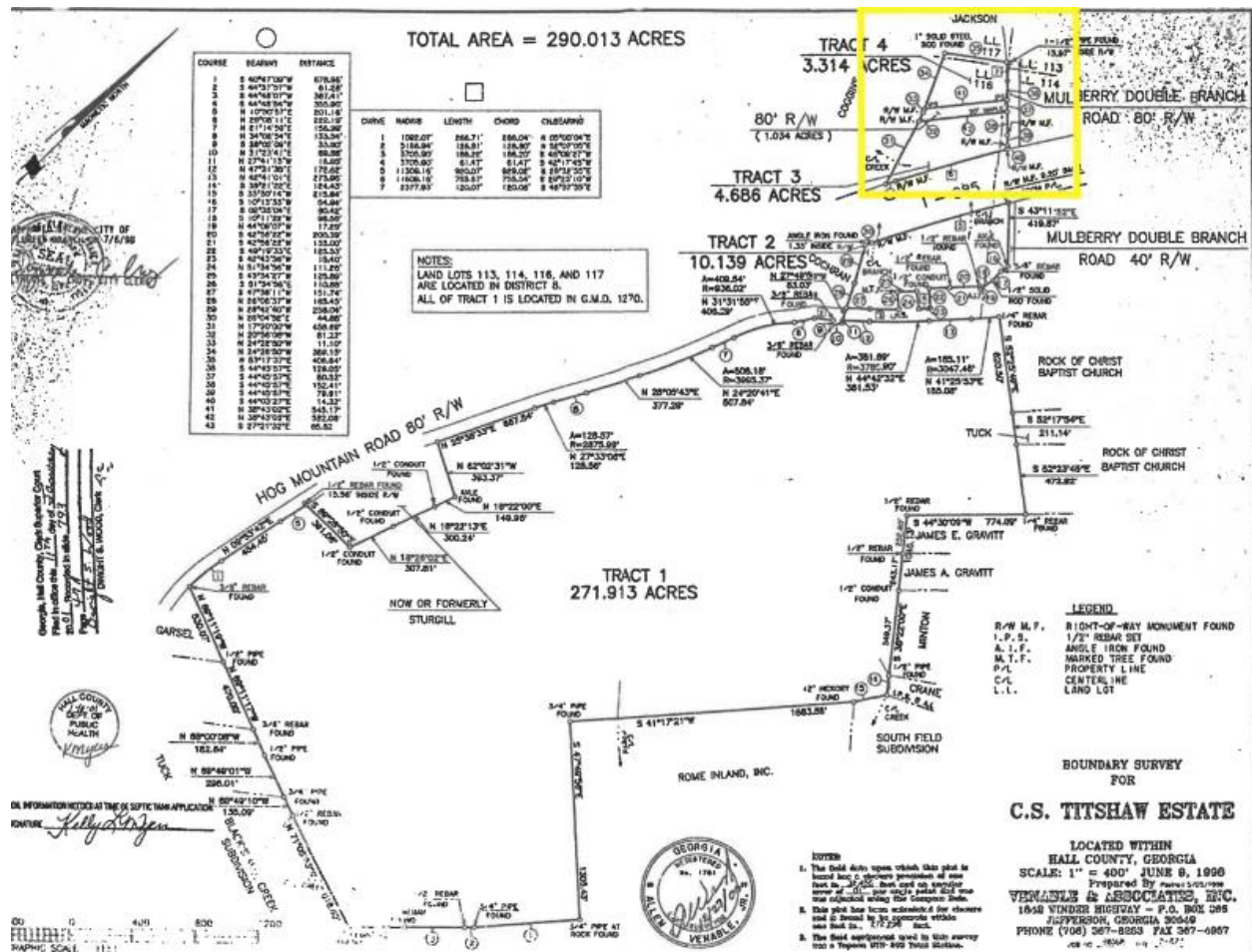
Edward R. Asbridge, Mayor

ATTEST:

Shelia R. Cooper, City Clerk

APPROVED AS TO FORM:

E. Ronald Bennett, Jr., City Attorney



Public Hearing Published 05/04/2022
Public Hearing 06/02/2022

First Reading 07/21/2022
Adopted 08/18/2022

Exhibit "B"

Legal Description Parcel 08116 000022

All that tract or parcel of land lying and being located in Tax Parcel No. 08116 000022 of the City of Flowery Branch, Hall County, Georgia containing 4.686 acres according to a survey for C.S Titshaw Estate, prepared by Venable & Associates, Inc, by Allen L. Venable, LS (Georgia Registered Land Surveyor No. 1761) dated December 27th, 2000, and being more particularly described according to said survey as follows.

Beginning at the Marker Found inside the DOT R/W of I- 985 at the corner of the property Thence a curve to the left, having a LC of 755.67 feet and a bearing of 29° 23' 10"; Thence South 27° 21' 32" West a distance of 65.82 feet; Thence North 17° 20' West a distance of 456.69 feet; Thence North 38° 43' 02" East a distance of 582.08 feet; Thence South 44° 45' 57" East a distance of 152.41 feet; Thence South 44° 45' 57" East a distance of 79.91 feet; Thence South 44° 03' 27" East a distance of 14.32 feet, to the point of beginning; Containing 4.686 acres.

Exhibit "C"

1. The project shall generally adhere to the site plan as shown below



2. Elevations shall be submitted and approved by the City of Flowery Branch prior to the issuance of a land disturbance permit. Said elevations shall meet all requirements of the City of Flowery Branch zoning ordinance.
3. Water and sewer shall be served by the City of Flowery Branch.
4. A homeowner's association is required.
5. A 10% rental cap shall be instituted and enforced by the HOA.
6. Project shall not exceed fifty-five (55) townhome units.



FLOWERY BRANCH CITY COUNCIL



EXECUTIVE SUMMARY

SUBJECT: Award of Contract to NFP for Benefits Consulting and Brokerage Services

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

- Historically the city has outsourced the Benefits Consulting and Brokerage services.
- Lanier Planning Corporation currently provides Benefits Consulting and Brokerage Services for the City of Flowery Branch.

FACTS AND ISSUES:

- Insurance expenses have increased each year with the market and as our city has grown.
- As our city continues to grow, new and innovative benefits will become necessary to attract and retain qualified employees.
- Epic Brokers, Lanier Planning, National Benefits Services Center, NFP, One Digital and Relation all submitted proposals for services.
- All proposals were evaluated and the top three (Epic Brokers, One Digital and NFP) were interviewed by the evaluation team.
- After the interviews were completed, staff recommends NFP as the Benefits Consultant for the City of Flowery Branch.
- NFP's team dedicated to Flowery Branch has over 80 years of combined experience.
- NFP will provide an employee portal, so employees can manage their benefits.
- NFP will provide increased communication through an annual benefits fair, monthly health initiatives emails and health initiatives podcast.
- NFP will shop services annually to ensure the city and employees are receiving best value.
- NFP also provides support in six key areas: Strategic Planning, Financial Management, Benefits Administration, Health Risk Management and Well-Being, Teammate Engagement and Compliance and Legislative support.

OPTIONS:

Approve staff recommendation or deny and remain with Lanier Planning.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

N/A

RECOMMENDATION:

Approval of Contract to NFP for Benefits Consulting and Brokerage Services

SAMPLE MOTION:

I make a motion to execute the annual contract for Benefits Consulting and Brokerage Services with four 1yr extension options to NFP.

COLLABORATING DEPARTMENT:

Finance

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [City of Flowery Branch Broker Services and Consulting Agreement.doc](#)
- [Executive Summary - Insurance Broker and Benefits services.pdf](#)

Broker Services and Consulting Agreement

This Broker Services and Consulting Agreement hereinafter referred to as “Agreement” is between City of Flowery Branch, Georgia, hereinafter referred to as “City of Flowery Branch” and NFP Corp. hereinafter referred to as “NFP,” collectively referred to as “the Parties.”

WHEREAS, City of Flowery Branch wishes to obtain the assistance of NFP with strategic benefit planning, design, funding, administration, and communication with respect to its employee benefit programs;

WHEREAS, NFP has superior knowledge and expertise in assisting employers with designing and servicing employee benefit plans; and

WHEREAS, the parties wish to set forth their respective expectations.

Now, therefore, for good and valuable consideration, the receipt and sufficiency of which is hereby mutually acknowledged, the parties hereby agree as follows:

1. Scope of Services to be Provided by NFP

NFP will provide City of Flowery Branch with consulting and brokerage services for the following benefit programs listed below:

- Medical
- Dental
- Basic Life & AD&D
- Voluntary Life & AD&D
- Short and Long Term Disability
- Vision
- HRA
- Flexible Spending Accounts
- Wellness
- Health Advocacy
- Voluntary Benefits
- COBRA Administration
- Other Employee Benefits Selected by City of Flowery Branch

- A. **Strategic Benefit Planning.** NFP will provide assistance in developing overall plan benchmarks and targets to ensure that the plan meets the objectives of City of Flowery Branch and its employees.
- B. **Benefit Design.** NFP will help to ensure that benefit designs are consistent with the strategic benchmarks and targets set forth in the strategic benefit planning process.
- C. **Administration.** NFP will identify core administrative services, assess vendor performance, and manage vendor relationships to provide appropriate program administration.
- D. **Technology.** NFP will provide, implement and maintain the benefit administration platform for City of Flowery Branch. This will include all necessary data feeds to carriers, and vendors.

- E. Funding.** NFP will advise and counsel regarding program funding alternatives, including review of proposals, recommend budget rates, employee contribution rates, and COBRA rates; and monitor program costs against expectations.
- F. Communication.** NFP will draft employee communications for approval by City of Flowery Branch regarding benefit program performance and changes, and will conduct a review of plan documents and insurance certificates during the planning and enrollment process.
- G. Compliance Tools & Legislative Information.** NFP will provide informational materials on legislative developments impacting employee benefit plans, including access to online reference tools on topics such as ERISA, PPACA, FMLA, COBRA, HIPAA, HIPAA Privacy, and Section 125.
- H. Meetings with City of Flowery Branch and Vendors.** Services will include attendance at and facilitation of regular meetings with City of Flowery Branch and vendors as needed to facilitate program management including day-to-day operations and planning program changes.
- NFP shall meet with City of Flowery Branch on a regular basis to review all activities performed by NFP during the prior time period. The meetings will include discussion of business concerns, including presentations of options and recommendations.
 - NFP shall meet with City of Flowery Branch regularly to discuss review of the program, state of the marketplace, progress made toward strategic plan, and developments within City of Flowery Branch's organization.
 - NFP shall meet with City of Flowery Branch annually to review the program for the preceding year, create a report outlining the goals and objectives for the upcoming year and make product and service recommendations for the new plan year.
- I. Day-to-Day Administrative Issues.** NFP shall be responsible for the daily administration of programs, including resolution of carrier and vendor service issues and addressing questions and concerns raised by City of Flowery Branch employees and management.
- NFP will enroll all current and new employees in the selected benefit plans and answer questions concerning these plans. This will include onsite and virtual education and enrollment meetings to accommodate employee schedules. NFP will endeavor to resolve all claims issues with regard to the employee benefit plans they administer in accordance with the applicable claims procedures under such plans; provided that either City of Flowery Branch or another designated claims fiduciary shall be responsible for appeals under such claims procedures. NFP will endeavor to resolve all billing issues with insurance carriers and vendors for the employee benefit plans they administer.
- J. Correction of Errors.** NFP will promptly notify City of Flowery Branch of any errors or failures of administration of the selected benefit plans, identify possible corrections, and assist in the correction(s) directed by City of Flowery Branch.

2. Disclosure and Record Keeping

- A. Full Disclosure.** City of Flowery Branch has the right to approve any arrangements and/or the utilization of any intermediaries in connection with, or arising out of, or in any way related to the insurance and risk management program. NFP must seek approval

from City of Flowery Branch prior to the use of any of the above in connection with the City of Flowery Branch insurance and risk management program.

- B. Record Keeping.** NFP will maintain accurate and current files including, but not limited to, insurance policies and correspondence with insurers or vendors in accordance with industry standard record retention practice or as otherwise directed by City of Flowery Branch.

3. Term & Termination

- A. Term.** Subject to earlier termination under Section 3(B), the initial term of this Agreement shall commence on August 1, 2022 for a three year contract, and thereafter this Agreement is renewable for two additional one-year terms, subject to review of services and fees by City of Flowery Branch and NFP. Thereafter, this Agreement will remain in effect until terminated as described below.

- B. Termination.** This Agreement may be terminated by either party only as follows:

- a) Effective upon thirty (30) days advance written notice to the other party stating that such other party is in breach of any of the provisions of this Agreement, provided such breach (if able to be cured) is not cured within fifteen (15) days after the notice is received;
- b) Effective upon sixty (60) days advance written notice to the other party given with or without reason; provided such notice is given after the Initial Term; or
- c) By mutual written agreement of the parties.

4. Cost of Services

NFP commission or service fee income is based upon the expenses of the firm. City of Flowery Branch will review and approve the commission or service fee income on each line of coverage.

The commission or service fee income offsets NFP's expenses relating to personnel, technology and other fixed and variable costs related to the operation of its firm.

NFP's will be paid by standard carrier commissions included in the benefit plans.

5. Personnel

NFP will assign its personnel according to the needs of City of Flowery Branch and according to the disciplines required to complete the appointed task in a professional manner. NFP retains the right to substitute personnel with reasonable cause. The Account Management Team consists of the following individuals:

Primary Client Service Team:	Tammi Starkey, Senior Vice President Cindy Drury, Senior Account Manager
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6. City of Flowery Branch Responsibilities

City of Flowery Branch will make available such reasonable information as required for NFP to conduct its services. Such data will be made available as promptly as possible. It is understood by NFP that the time of City of Flowery Branch personnel is limited, and NFP's judicious use of that time is a requirement of this Agreement.

7. Records and Information

NFP understands and agrees to limit its use and disclosure of Confidential Information as defined and described in Exhibit 1, and Protected Health Information as defined and described in Exhibit 2.

8. Independent Contractor.

It is understood and agreed that NFP is engaged by City of Flowery Branch to perform services under this Agreement as an independent contractor. NFP agrees to follow written, oral, or electronically transmitted (i.e. sent via facsimile or e-mail) instructions from City of Flowery Branch as to policy and procedure. City of Flowery Branch does not indemnify private third-parties as doing so is in violation of the gratuities clause of the Georgia Constitution and in violation of Georgia case law.

9. Fiduciary Responsibility.

City of Flowery Branch acknowledges that: (i) NFP shall have no discretionary authority or discretionary control with respect to the management of any of the employee benefit plans other than as claims administrator under Section 1(I); (ii) NFP shall exercise no authority or control with respect to management or disposition of the assets of City of Flowery Branch employee benefit plans; and (iii) NFP shall perform services pursuant to this Agreement in a non-fiduciary capacity. City of Flowery Branch agrees to notify NFP as soon as possible of any proposed amendments to the plans' legal documents to the extent that the amendments would affect NFP in the performance of its obligations under this Agreement. City of Flowery Branch agrees to submit (or cause its agent, NFP, or vendors to submit) all information in its (or their) control reasonably necessary for NFP to perform the services covered by this Agreement.

10. Non-disclosure.

Except as otherwise provided by law, NFP agrees not to disclose its participation in this undertaking, the existence or terms and conditions of the Agreement, or the fact that discussions are being held with City of Flowery Branch.

11. Governing Law and Equitable Relief.

This Agreement shall be governed and construed in accordance with the laws of the United States and the State of Georgia and NFP consents to the exclusive jurisdiction of the state courts and U.S. federal courts serving City of Flowery Branch, Georgia for any dispute arising out of this Agreement. NFP agrees that in the event of any breach or threatened breach by NFP, City of Flowery Branch may obtain, in addition to any other

legal remedies which may be available, such equitable relief as may be necessary to protect City of Flowery Branch against any such breach or threatened breach.

12. Final Agreement.

This Agreement terminates and supersedes all prior understandings or agreements on the subject matter hereof between the parties. This Agreement may be modified only by a further writing that is duly executed by both parties.

13. Severability.

If any term of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, then this Agreement, including all of the remaining terms, will remain in full force and effect as if such invalid or unenforceable term had never been included.

14. Notices.

Any notice required by this Agreement or given in connection with it, shall be in writing and shall be given to the appropriate party by personal delivery or by certified mail, postage prepaid, or recognized overnight delivery services.

If to City of Flowery Branch:

City of Flowery Branch
5410 Pine St
Flowery Branch, GA 30542

If to NFP:

NFP
Attention: Tammi Starkey
351 Washington Ave, Suite 120
Marietta, GA 30060

15. No Implied Waiver

Either party's failure to insist in any one or more instances upon strict performance by the other party of any of the terms of this Agreement shall not be construed as a waiver of any continuing or subsequent failure to perform or delay in performance of any term hereof.

16. Entire Agreement

This constitutes the entire Agreement between the parties, and any other warranties or agreements are hereby superseded. Subsequent amendments to this Agreement shall only be in writing signed by both parties.

IN WITNESS WHEREOF, the undersigned have executed this Agreement.

City of Flowery Branch

NFP

Signed: _____

Signed: _____

Date: _____

Date: _____

Name (Print): _____

Name (Print): _____

Title: _____

Title: _____

Exhibit 1

Confidentiality Agreement

This Confidentiality Agreement hereinafter referred to as “Agreement” is between City of Flowery Branch, Georgia, hereinafter referred to as “City of Flowery Branch” and NFP, Corp., hereinafter referred to as “NFP.”

1. Confidential Information.

City of Flowery Branch proposes to disclose certain of its confidential information (the "Confidential Information") to NFP. Confidential Information shall include, without limitation, names, Social Security Numbers, dates of birth, hire dates, job titles, salary, financial information, information which a reasonable person would know constitutes proprietary information, and other information disclosed or submitted, orally, in writing, or by any other media, to NFP by City of Flowery Branch. Confidential Information disclosed orally shall be identified as such within five (5) days of disclosure. Nothing herein shall require City of Flowery Branch to disclose any of its information.

2. NFP Obligations.

A. NFP agrees that the Confidential Information is to be considered confidential and proprietary to City of Flowery Branch and NFP shall hold the same in confidence, shall not use the Confidential Information other than for the purposes of its business with City of Flowery Branch, and shall disclose it only to its officers, directors, or employees with a specific need to know and to insurance carriers and vendors for the purpose of developing proposals and implementing employee benefit plans. NFP will not disclose, publish or otherwise reveal any of the Confidential Information received from City of Flowery Branch to any other party whatsoever except with the specific prior written authorization of City of Flowery Branch.

B. Confidential Information furnished in tangible form shall not be duplicated by NFP except for purposes of this Agreement. Upon the request of City of Flowery Branch, NFP shall return all Confidential Information received in written or tangible form, including copies, or reproductions or other media containing such Confidential Information, within ten (10) days of such request. At NFP option, and except as otherwise provided by law, any documents or other media developed by NFP containing Confidential Information may be destroyed by NFP. NFP shall provide a written certificate to City of Flowery Branch regarding destruction within ten (10) days thereafter.

C. Notwithstanding anything in this Agreement to the contrary, NFP will abide by and preserve any Confidential Information subject to a “litigation hold” at the direction of City of Flowery Branch.

3. Term.

The obligations of NFP herein shall be effective from the date City of Flowery Branch first discloses any Confidential Information to NFP pursuant to this Agreement, and shall survive the termination or expiration of this Agreement. Further, the obligation not to disclose shall not be affected by bankruptcy, receivership, assignment, attachment or seizure procedures, whether

initiated by or against NFP, nor by the rejection of any agreement between City of Flowery Branch and NFP, by a trustee of NFP in bankruptcy, or by the NFP as a debtor-in-possession or the equivalent of any of the foregoing under local law.

4. Other Information.

NFP shall have no obligation under this Agreement with respect to Confidential Information which is or becomes publicly available without breach of this Agreement by NFP; is rightfully received by NFP without obligations of confidentiality; or is developed by NFP without breach of this Agreement; provided, however, such Confidential Information shall not be disclosed until thirty (30) days after written notice of intent to disclose is given to City of Flowery Branch along with the asserted grounds for disclosure.

5. No License.

Nothing contained herein shall be construed as granting or conferring any rights by license or otherwise in any Confidential Information. It is understood and agreed that neither party solicits any change in the organization, business practice, service or products of the other party, and that the disclosure of Confidential Information shall not be construed as evidencing any intent by a party to purchase any products or services of the other party nor as an encouragement to expend funds in development or research efforts. Confidential Information may pertain to prospective or unannounced products or services. NFP agrees not to use any Confidential Information as a basis upon which to develop or have a third party develop a competing or similar product.

6. Non-disclosure.

NFP agrees not to disclose its participation in this undertaking, the existence or terms and conditions of the Agreement, or the fact that discussions are being held with City of Flowery Branch.

7. Governing Law and Equitable Relief.

This Agreement shall be governed and construed in accordance with the laws of the United States and the State of Georgia and NFP consents to the exclusive jurisdiction of the state courts and U.S. federal courts serving City of Flowery Branch, Georgia for any dispute arising out of this Agreement. NFP agrees that in the event of any breach or threatened breach by NFP, City of Flowery Branch may obtain, in addition to any other legal remedies which may be available, such equitable relief as may be necessary to protect City of Flowery Branch against any such breach or threatened breach.

8. Final Agreement.

This Agreement terminates and supersedes all prior understandings or agreements on the subject matter hereof. This Agreement may be modified only by a further writing that is duly executed by both parties.

9. No Assignment.

NFP may not assign this Agreement or any interest herein without City of Flowery Branch's express prior written consent.

10. Severability.

If any term of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable, then this Agreement, including all of the remaining terms, will remain in full force and effect as if such invalid or unenforceable term had never been included.

11. Notices.

Any notice required by this Agreement or given in connection with it, shall be in writing and shall be given to the appropriate party by personal delivery or by certified mail, postage prepaid, or recognized overnight delivery services.

If to City of Flowery Branch:

City of Flowery Branch
5410 Pine St
Flowery Branch, GA 30542

If to NFP:

NFP, Inc.
Attention: Tammi Starkey
351 Washington Ave, Suite 120
Marietta, GA 30060

12. No Implied Waiver.

Either party's failure to insist in any one or more instances upon strict performance by the other party of any of the terms of this Agreement shall not be construed as a waiver of any continuing or subsequent failure to perform or delay in performance of any term hereof.

IN WITNESS WHEREOF, the undersigned have executed this Agreement.

City of Flowery Branch

NFP, Inc.

Signed: _____

Signed: _____

Date: _____

Date: _____

Name (Print): _____

Name (Print): _____

Title: _____

Title: _____

Exhibit 2

Business Associate Agreement

This Business Associate Agreement, hereinafter referred to as “Agreement”, is between City of Flowery Branch, Georgia, hereinafter referred to as “Covered Entity” and NFP Corp., hereinafter referred to as “Business Associate”.

Recitals

WHEREAS, the purpose of this Agreement is to assure the privacy and security of Protected Health Information and Electronic Protected Health Information in accordance with the regulations (the “HIPAA Rules”) issued by the Department of Health and Human Services (“HHS”) under the Health Insurance Portability and Accountability Act of 1996 as codified at 42 U.S.C. §1320d (“HIPAA”) as amended by the Health Information Technology for Economic and Clinical Health Act as codified at 42 U.S.C.A. prec. § 17901 (“HITECH”), enacted as part of the American Recovery and Reinvestment Act (“ARRA”); and

WHEREAS, Covered Entity has engaged Business Associate to perform services on its behalf;

WHEREAS, Covered Entity possesses Individually Identifiable Health Information that is protected under HIPAA, the HIPAA Privacy Regulations, the HIPAA Security Regulations and the HITECH Standards and is permitted to use or disclose such information only in accordance with such laws and regulations;

WHEREAS, Business Associate may receive such information from Covered Entity or create and receive such information on behalf of Covered Entity;

WHEREAS, Covered Entity wishes to ensure that Business Associate will appropriately safeguard Individually Identifiable Health Information;

NOW THEREFORE, for good and valuable consideration, the sufficiency of which we hereby acknowledge, the Parties agree as follows:

Article I

Definitions

1.1 Catch-all definitions. The following terms used in this Agreement shall have the same meaning as those terms in HIPAA, the HITECH Act, and any current and future regulations promulgated under HIPAA or HITECH: Data Aggregation, Designated Record Set, Disclosure, Health Care Operations, Individual, Minimum Necessary, Notice of Privacy Practices, Protected Health Information, Required By Law, Secretary, Security Incident, Subcontractor, Unsecured Protected Health Information, and Use.

1.2 Specific definitions:

(a) Breach. “Breach” shall mean the acquisition, access, use or disclosure of

“HIPAA Privacy Regulations”) which compromises the security or privacy of the Protected Health Information. “Breach” shall not include:

- (i) Any unintentional acquisition, access, or use of Protected Health Information by a workforce member or person acting under the authority of Covered Entity or Business Associate, if such acquisition, access or use was made in good faith and within the scope of authority and does not result in further use or disclosure in a manner not permitted under the HIPAA Privacy Regulations; or
- (ii) Any inadvertent disclosure by a person who is authorized to access Protected Health Information at Covered Entity or Business Associate to another person authorized to access Protected Health Information at Covered Entity or Business Associate, respectively, and the information received as a result of such disclosure is not further used or disclosed in a manner not permitted under the HIPAA Privacy Regulations; or
- (iii) A disclosure of Protected Health Information where Covered Entity or Business Associate has a good faith belief that an unauthorized person to whom the disclosure was made would not reasonably have been able to retain such information.

(b) Business Associate. “Business Associate” shall generally have the same meaning as the term “business associate” at 45 CFR 160.103, and in reference to the Party to this Agreement, shall mean the person/entity named above.

(c) Covered Entity. “Covered Entity” shall generally have the same meaning as the term “covered entity” at 45 CFR 160.103, and in reference to the Party to this Agreement, shall mean the entity named above.

(d) Electronic Protected Health Information. “Electronic Protected Health Information” shall mean Protected Health Information that is transmitted by or maintained in electronic media as defined by the HIPAA Security Regulations.

(e) HIPAA Rules. “HIPAA Rules” shall mean the Privacy, Security, Breach Notification, and Enforcement Rules at 45 CFR Part 160 and Part 164.

(f) HITECH Standards. “HITECH Standards” shall mean the privacy, security and security Breach notification provisions applicable to a Business Associate under Subtitle D of the HITECH Act and any regulations promulgated thereafter.

(g) Individually Identifiable Information. “Individually Identifiable Information” means information that is a subset of health information, including demographic information collected from an individual, and:

- (i) is created or received by a health care provider, health plan, employer or health care clearinghouse; and
- (ii) relates to past, present, or future physical or mental health or condition of an individual; the provision of health care to an individual; or the past, present or future payment for the provision of health care to an individual; and

- (A) that identifies the individual; or
- (B) with respect to which there is a reasonable basis to believe the information can be used to identify the individual.

Article 2

Obligations and Activities of Business Associate

2.1 Limited Use or Disclosure of PHI. To the extent the Business Associate is to carry out one or more of Covered Entity's obligation(s) under Subpart E of 45 CFR Part 164, Business Associate agrees to comply with the requirements of Subpart E that apply to the Covered Entity in the performance of such obligation(s). Business Associate further agrees not use or disclose Protected Health Information other than as permitted or required by the Agreement, in furtherance of the services provided by Business Associate for Covered Entity, or as required by law. Business Associate will not sell Protected Health Information and Electronic Health Records or use or disclose Protected Health Information for marketing or fundraising purposes as set forth in 42 U.S.C. § 17935(d) or 42 U.S.C. § 17936(a), respectively. The Business Associate shall secure Protected Health Information in accordance with 42 U.S.C. § 17932(h) and the related regulations at 45 CFR Part 14, subpart D, as well as any guidance issued by the Secretary that specifies secure technologies and methodologies such that Unsecured Protected Health Information is not maintained by the Business Associate.

2.2 Safeguards. The Business Associate shall implement and use appropriate safeguards to prevent the use or disclosure of PHI other than as permitted by this Agreement, including establishing procedures that limit access to PHI within its organization to those employees with a need to know the information. The Business Associate agrees that it will implement reasonable administrative, physical, and technical safeguards to protect the confidentiality, integrity and availability of electronic PHI that it creates, receives, maintains or transmits on behalf of the Covered Entity, as required by the HIPAA Rules.

Business Associate acknowledges and agrees that the administrative, physical and technical safeguards requirements of 45 CFR Sections 164.308, 164.310 and 164.312 shall apply to the Business Associate in the same manner that such sections apply to the Covered Entity. The Business Associate shall comply with the provisions of 45 CFR Part 164, Subpart C of the HIPAA Rules with respect to Electronic PHI to prevent any use or disclosure of PHI other than as permitted by this Agreement, and shall implement and maintain in written form reasonable and appropriate policies and procedures to comply with the standards, implementation specifications or other requirements of the HIPAA Rules, in accordance with 45 CFR. Section 164.316.

2.3 Notice of Use, Disclosure, Security Incident or Breach.

(a) Business Associate agrees to notify the designated Privacy Officer of the Covered Entity of any use or disclosure of Protected Health Information by Business Associate not provided for by the Agreement, including breaches of Unsecured Protected Health Information as required at 45 CFR 164.410, and any security incident of which it becomes aware without unreasonable delay, but in no case more than thirty (30) days following discovery of breach, including instances in which an agent or subcontractor has improperly used or disclosed PHI. For purposes of this Agreement, a Breach shall be treated as discovered as of the first day that the Business Associate knows of, or should reasonably have known of such Breach. Business Associate further agrees to provide the following information in such notice to Covered Entity:

- (i) the identification of each Individual whose Unsecured Protected Health Information has been, or is reasonably believed by Business Associate to have been, accessed, acquired, or disclosed during such Breach;
 - (ii) a description of the nature of the Breach including the types of Unsecured Protected Health Information that were involved, the date of the Breach and the date of discovery;
 - (iii) a description of the type of Unsecured Protected Health Information acquired, accessed, used or disclosed in the Breach (e.g., full name, social security number, date of birth, etc.);
 - (iv) the identity of the person who made and who received (if known) the unauthorized acquisition, access, use or disclosure;
 - (v) a description of what the Business Associate is doing to mitigate the damages and protect against future breaches; and
 - (vi) any other details necessary for Covered Entity to assess risk of harm to Individual(s), including identification of each Individual whose Unsecured Protected Health Information has been Breached and steps such Individuals should take to protect themselves.
- (b) Covered Entity will be responsible for providing notification to Individuals whose Unsecured Protected Health Information has been disclosed, as well as the Secretary and the media, as required by the HITECH Standards.
- (c) Business Associate agrees to establish procedures to investigate the Breach, mitigate losses, and protect against any future Breaches, and to provide a description of these procedures and the specific findings of the investigation to Covered Entity in the time and manner reasonably requested by Covered Entity.
- (d) The Parties agree that this section satisfies any notice requirements of Business Associate to Covered Entity of the ongoing existence and occurrence of attempted but Unsuccessful Security Incidents (as defined below) for which no additional notice to Covered Entity shall be required. For purposes of this Agreement, “Unsuccessful Security Incidents” include activity such as pings and other broadcast attacks on Business Associate’s firewall, port scans, unsuccessful log-on attempts, denials of service and any combination of the above, so long as no such incident results in unauthorized access, use or disclosure of Electronic Protected Health Information.

2.4 Mitigation. Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to Business Associate of a use or disclosure of Protected Health Information by Business Association in violation of this Agreement.

2.5 Subcontractors. Business Associate agrees to act in accordance with 45 CFR 164.502(e)(1)(ii) and 164.308(b)(2), if applicable, to ensure that any Subcontractors that create, receive, maintain, or transmit Protected Health Information on behalf of the Business Associate agree to the same restrictions, conditions, and requirements that apply to the Business Associate with respect to such information.

2.6 Access. Within ten (10) business days of a request by the Covered Entity for access to PHI about an Individual maintained by Business Associate in a Designated Record Set, the Business Associate shall make available to the Covered Entity such PHI for so long as such information is maintained in a Designated Record Set. In the event any Individual requests access to PHI directly from such Business Associate, the Business Associate shall notify Covered Entity and respond to the request for PHI within fifteen (15) business days. If the requested PHI is maintained electronically, Business Associate must provide a copy of the PHI in the electronic form and format requested by the Individual, if it is readily producible, or, if not, in a readable electronic form and format as agreed to by Covered Entity and the Individual. Any denials of access to the PHI requested shall be the responsibility of Covered Entity. Business Associate may charge Covered Entity or Individual for the actual labor cost involved in providing such access.

2.7 Security of Electronic Protected Health Information. Business Associate agrees to implement administrative, physical and technical safeguards that are reasonably and appropriately designed to protect the confidentiality, integrity and availability of Electronic Protected Health Information that it creates, receives, maintains or transmits on behalf of Covered Entity; (2) ensure that any agent, including a subcontractor, to whom it provides such information agrees in writing to implement reasonable and appropriate safeguards to protect it; and (3) report to the Covered Entity any security incidents of which it becomes aware in accordance with Section 2.3.

2.8 Minimum Necessary. Business Associate agrees to limit its uses and disclosures of, and requests for, Protected Health Information (a) when practical, to the information making up a Limited Data Set; and (b) in all other cases subject to the requirements of 45 CFR 164.502(b) and 42 U.S.C. § 17935(b), to the minimum amount of Protected Health Information necessary to accomplish the intended purpose of the use, disclosure or request.

2.9 Amendments. Business Associate agrees to make any amendment(s) to Protected Health Information in a Designated Record Set as directed or agreed to by the Covered Entity, upon request of Covered Entity or an Individual, pursuant to 45 CFR 164.526, or take other measures as necessary to satisfy Covered Entity's obligations under 45 CFR 164.526 within thirty (30) days.

2.10 Accounting. The Business Associate agrees to maintain and make available to the Covered Entity an accounting of disclosures of PHI made by Business Associate as would be required for the Covered Entity to respond to a request by an Individual made in accordance with 45 CFR 164.528. At a minimum, the accounting of disclosures shall include the following information:

- a. Date of disclosure;
- b. The name of the person or entity who received the PHI, and if known, the address of such entity or person;
- c. A brief description of the PHI disclosed; and
- d. A brief statement of the purpose of such disclosure which includes an explanation of the basis of such disclosure.

In the event the request for an accounting is delivered directly to the Business Associate, the Business Associate shall notify the Covered Entity and respond to the request within fifteen (15) business days. Any denials of a request for an accounting shall be the responsibility of Covered

Entity. The Business Associate agrees to implement an appropriate recordkeeping process to enable it to comply with the requirements of this Section.

Business Associate need not record disclosure information or otherwise account for disclosures of PHI that this Agreement or Covered Entity in writing permits or requires (i) for the purpose of Covered Entity's treatment activities, payment activities, or health care operations (except where such recording or accounting is required by the HITECH Act, and as of the effective dates for this provision of the HITECH Act); (ii) to the individual who is the subject of the PHI disclosed or to that individual's personal representative; (iii) to persons involved in that individual's health care or payment for health care; (iv) for notification for disaster relief purposes; (v) for national security or intelligence purposes; (vi) to law enforcement officials or correctional institutions regarding inmates; or (vii) pursuant to an authorization.

2.11 Disclosure of Practices, Books and Records. Business Associate agrees to make its internal practices, books, and records relating to the use and disclosure of Protected Health Information received from, or created or received by Business Associate on behalf of Covered Entity, available to Covered Entity or the Secretary in a time or manner designated by the Covered Entity or Secretary, for purposes of determining compliance with the HIPAA Rules.

Article 3

Permitted Uses and Disclosures by Business Associate

3.1 Permitted Use and Disclosure. Except as otherwise limited in this Agreement, Business Associate may use or disclose Protected Health Information to perform functions, activities, or services for, or on behalf of, Covered Entity provided that such use or disclosure would not violate the HIPAA Rules.

(a) Business Associate may use or disclose Protected Health Information as necessary to perform and in furtherance of the services to Covered Entity, which may include use and disclosure in databases, software and aggregation services available to Business Associate.

(b) Business Associate is authorized to use Protected Health Information to de-identify the information in accordance with 45 CFR 164.514(a)-(c).

(c) Business Associate may use or disclose Protected Health Information as required by law. Business Associate shall disclose the minimum amount necessary to satisfy the requirement and shall make reasonable efforts to obtain assurances that confidential treatment be accorded to Protected Health Information.

(d) Business Associate agrees to limit its uses and disclosures of, and requests for, Protected Health Information (i) when practical, to the information making up a Limited Data Set; and (ii) in all other cases to the minimum amount of Protected Health Information necessary to accomplish the intended purpose of the use, disclosure or request.

(e) Business Associate may use Protected Health Information for the proper management and administration of the Business Associate or to carry out the legal responsibilities of the Business Associate.

Article 4

Obligations of Covered Entity

4.1 Notice of Privacy Practices of Covered Entity. Covered Entity shall notify Business Associate in writing of any limitation(s) in the notice of privacy practices of covered entity under 45 CFR 164.520, to the extent that such limitation may affect Business Associate's use or disclosure of Protected Health Information.

4.2 Restrictions in Use of Protected Health Information. Covered Entity shall notify Business Associate in writing of any changes in, or revocation of, the permission by an individual to use or disclose his or her Protected Health Information, to the extent that such changes may affect Business Associate's use or disclosure of Protected Health Information.

4.3 Changes in the Use of Protected Health Information. Covered Entity shall notify Business Associate of any restriction on the use or disclosure of Protected Health Information that Covered Entity has agreed to or is required to abide by under 45 CFR 164.522, to the extent that such restriction may affect Business Associate's use or disclosure of Protected Health Information.

4.4 Permissible Requests by Covered Entity. Except as otherwise provided in this Agreement, Covered Entity will not ask Business Associate to use or disclose Protected Health Information in any manner that would violate the HIPAA Rules or the HITECH Standard if done by Covered Entity.

Article 5

Term and Termination

5.1 Term. The initial term of this Agreement shall begin on the Effective Date and continue for the same term as set forth in the Broker Services and Consulting Agreement between the Parties remains in effect, subject to early termination under Section 5.2.

5.2 Termination for Cause. Upon either Party's reasonable determination that the other Party has committed a violation or material breach of this Agreement, the non-breaching Party may take one of the following steps:

(a) Provide an opportunity for the breaching Party to cure the breach or end the violation, and if the breaching Party does not cure the breach or end the violation within thirty (30) days, terminate this Agreement;

(b) Immediately terminate this Agreement if the other Party has committed a material breach of this Agreement and cure of the material breach is not possible as acknowledged by both parties; or

(c) If neither cure nor termination is feasible, elect to continue this Agreement and report the violation or material breach to the Secretary in accordance with the requirements set forth in the HIPAA Rules.

5.3 Obligations of Business Associate Upon Termination. Upon termination of this Agreement for any reason, Business Associate, with respect to Protected Health Information received from Covered Entity, or created, maintained, or received by Business Associate on behalf of Covered Entity, shall:

(a) Retain only that Protected Health Information which is necessary for Business Associate to continue its proper management and administration or to carry out its legal responsibilities;

(b) Return to Covered Entity or destroy the remaining Protected Health Information that the Business Associate still maintains in any form;

(c) Continue to use appropriate safeguards and comply with Subpart C of 45 CFR Part 164 with respect to Electronic Protected Health Information to prevent use or disclosure of the Protected Health Information, other than as provided for in this Section, for as long as Business Associate retains the Protected Health Information;

(d) Not use or disclose the Protected Health Information retained by Business Associate other than for the purposes for which such Protected Health Information was retained and subject to the same conditions set out at Section 3.1 which applied prior to termination; and

(e) Return to Covered Entity or, if agreed to by Covered Entity, destroy the Protected Health Information retained by Business Associate when it is no longer needed by Business Associate for its proper management and administration or to carry out its legal responsibilities.

(f) Notwithstanding anything to the contrary herein, Covered Entity authorizes Business Associate to transmit Protected Health Information to another business associate of Covered Entity.

5.4 Survival. The obligations of Business Associate under this Section shall survive the termination of this Agreement.

Article 6 Miscellaneous

6.1 Regulatory References. A reference in this Agreement to a section in the HIPAA Rules means the section as in effect or as amended.

6.2 Amendment. The Parties agree to take such action as is necessary to amend this Agreement from time to time as is necessary for compliance with the requirements of the HIPAA Rules and any other applicable law.

6.3 Interpretation. Any ambiguity in this Agreement shall be interpreted to permit compliance with the HIPAA Rules.

6.4 Prior Agreement. This Agreement shall replace and supersede any prior Business Associate Agreement between the Parties.

IN WITNESS WHEREOF, the undersigned have executed this Agreement.

City of Flowery Branch

NFP

Signed: _____

Signed: _____

Date: _____

Date: _____

Name (Print): _____

Name (Print): _____

Title: _____

Title: _____

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Award of Contract to NFP for Benefits Consulting and Brokerage Services.

DATE: 7/21/2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL-

() OTHER

CAPITAL-

COMMISSION ACTION REQUESTED ON: 7/21/2022

PURPOSE: From time to time, as a prudent practice, it is important for local governments to issue Request for Proposals for its consulting services to ensure its contracted services are still relevant and competitive.

HISTORY:

- Historically the city has outsourced the Benefits Consulting and Brokerage services.
 - Lanier Planning Corporation currently provides Benefits Consulting and Brokerage Services for the City of Flowery Branch.
-
-

FACTS AND ISSUES:

- Insurance expenses have increased each year with the market and as our city has grown.
 - As our city continues to grow, new and innovative benefits will become necessary to attract and retain qualified employees.
 - Epic Brokers, Lanier Planning, National Benefits Services Center, NFP, One Digital, Relation and Turner Wood & Smith all submitted proposals for services.
 - All proposals were evaluated and the top three (Epic Brokers, One Digital and NFP) were interviewed by the evaluation team.
 - After the interviews were completed, staff recommends NFP as the Benefits Consultant for the City of Flowery Branch.
 - NFP's team dedicated to Flowery Branch has over 80 years of combined experience.
 - NFP will provide an employee portal, so employees can manage their benefits.
 - NFP will provide increased communication through an annual benefits fair, monthly health initiatives emails and health initiatives podcast.
 - NFP will shop services annually to ensure the city and employees are receiving best value.
-
-

-
-
- NFP also provides support in six key areas: Strategic Planning, Financial Management, Benefits Administration, Health Risk Management and Well-Being, Teammate Engagement and Compliance and Legislative support.
-
-

OPTIONS: Approve staff recommendation or deny and remain with Lanier Planning.

RECOMMENDED SAMPLE MOTION:

I make a motion to execute the annual contract for Benefits Consulting and Brokerage Services with four 1yr extension options to NFP.

DEPARTMENT: Finance

Prepared by: Matt Hamby



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consideration of Approval of Change Order #3 for Mitchell Street Improvements Project

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

1. Inability to procure retaining wall blocks has caused the city to search for a block type that was available immediately. The resulting choice is more expensive than the original, necessitating a change order. 2. Flexible pipe downspouts were connected to flow wells that were placed in the sanitary sewer easement. Construction of the sewer line removed these flow wells and we need to extend the downspouts flexible pipes through the wall.

FACTS AND ISSUES:

See History.

OPTIONS:

Approve or Deny.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$32,002 - SPLOST

RECOMMENDATION:

Approve change order #3 for a wall block alternative and connecting downspouts for the Mitchell Street Improvement Project.

SAMPLE MOTION:

I move to approve Mitchell Street Improvements Project change order #3 in the amount of \$32,002.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [G701-2017 - Final_City of Flowery Branch.pdf](#)
- [Change order 3 per RFI#4#5#6.pdf](#)

- [Executive Summary - Mitchell Street Improvements - Change Order 3.pdf](#)



AIA®

Document G701™ – 2017

Change Order

PROJECT: *(Name and address)*
Flowerly Branch - Mitchell St
Improvement Project

OWNER: *(Name and address)*
City of Flowerly Branch
PO Box 757
5410 Pine Street
Flowerly Branch, GA 30542

CONTRACT INFORMATION:
Contract For: Summit Construction and
Development, LLC
Date: NTP: 10/26/2020

ARCHITECT: *(Name and address)*
CPL Architecture Engineering &
Planning
3011 Sutton Gate Drive, Suite 130
Suwanee, GA 30024

CHANGE ORDER INFORMATION:
Change Order Number: 3

Date: 6/22/2022

CONTRACTOR: *(Name and address)*
Summit Construction and
Development, LLC
2108 Bentley Drive
Stone Mountain, GA 30087

THE CONTRACT IS CHANGED AS FOLLOWS:

(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)

1. For the wall referenced in Change Order 1, use Kodah block instead of Stonegate Retaining Wall Blocks by Tremron (see attached summary). - \$14,602.00
2. Adjust 1 additional manhole (3 feet) - \$2500.00
3. Incorporate flexible downspout pipes from lots 40 thru 52 through the wall - 14 @ \$850.00 each = \$14,900

The original Contract Sum was	\$	361,693.21
The net change by previously authorized Change Orders	\$	169,605.00
The Contract Sum prior to this Change Order was	\$	531,298.21
The Contract Sum will be increased by this Change Order in the amount of	\$	32,002.00
The new Contract Sum including this Change Order will be	\$	563,300.21

The Contract Time will be increased by Zero (0) days.
The new date of Substantial Completion will be 4/7/2022

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.

CPL Architecture Engineering & Planning

ARCHITECT *(Firm name)***SIGNATURE**

Rich Edinger, P.E. Vice President
PRINTED NAME AND TITLE

DATESummit Construction and Development,
LLC**CONTRACTOR** *(Firm name)***SIGNATURE**

Ruben Duran, President
PRINTED NAME AND TITLE

DATE

City of Flowerly Branch

OWNER *(Firm name)***SIGNATURE**

Tonya Parrish, City Manager
PRINTED NAME AND TITLE

DATE



Project 20-054

SUMMIT CONSTRUCTION & DEVELOPMENT, LLC
2108 BENTLEY DRIVE, STONE MOUNTAIN, GA 30087
Tel (770) 413-0093 Ext. 804 / Fax (770) 413-0050
sdestimator@summitcd.com

PROPOSED CHANGE ORDER #3

Date: 6/16/2022

Project: Mitchell Street Infrastructure - City of Flowery Branch
Location: Flowery Branch, GA

(Company): CPL Team
Phone: 678-318-1243
Email: jmueller@cplteam.com

Attention: Jeffrey W. Mueller, P.E

Item Number	Item Description	Qty	Units	Unit Price	Total Price
<u>Per RFI4.#5,#6</u>					
1	Downspouts for Lot#40 to Lot#52	14	EA	\$ 850.00	\$ 11,900.00
2	Adjust SSMH to grade - 3'	1	EA	\$ 2,500.00	\$ 2,500.00
Total Estimated Addition					\$14,400.00

Terms and Conditions:

1. Scope of Work: Contractor agrees to furnish all material, labor, installation, insurance, equipment, and tools required for the prompt and efficient execution of the work described herein in a professional and workmanlike manner.

2. Quote Amount. Owner agrees to pay Contractor for the strict performance of his work, the sum as indicated above subject to additions and deductions for changes in the scope of work as may be subsequently agreed upon. Due to current fluctuations in the materials markets, the proposal price is based upon material pricing as of the proposal date. This proposal price is valid for 30 days.

3. Disclaimer:

Due to the constant fluctuation in material costs and fuel, pricing is subject to change. If completion is delayed as a result of major or unforeseen circumstances including but not limited to any strike, lockout, shortage of materials, riot, political or civil disturbance, exceptionally inclement weather, or any variation, act, or omission on the part of the Owner, its representative or any other cause beyond the control of Summit Construction & Development LLC, then the Owner shall not for such reason have any claim against Summit Construction & Development LLC whether for damages or otherwise; The Owner agrees to hold Summit Construction & Development LLC harmless and Summit Construction & Development LLC shall be entitled to a fair and reasonable amount of time for the completion of all works contracted.

Exclusions:

1. Any other items than above mentions scope of work.
2. Testing or any engineering services.

Approval:

Signed By:

AN

Ajay Naidu

Sr. Estimator

Summit Construction and Development, LLC

Date 06/16/2022

Accepted By:

Owner:

Date _____

**FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY**

SUBJECT: Mitchell Street Improvements – Change Order 3 – Wall Block and Downspouts

DATE: July 14, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- No change

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorize a wall block alternative and connecting downspouts through the retaining wall.

HISTORY: 1. Inability to procure retaining wall blocks has caused the city to search for a block type that was available immediately. The resulting choice is more expensive than the original, necessitating a change order. 2. Flexible pipe downspouts were connected to flow wells that were placed in the sanitary sewer easement. Construction of the sewer line removed these flow wells and we need to extend the downspouts flexible pipes through the wall.

FACTS AND ISSUES: See History.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I move to approve Mitchell Street Improvements Change Order 3.

DEPARTMENT: Administration

Prepared by: Rich Edinger



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consideration of Approval of Change Order #4 for the Farmers Market Project

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The Farmers Market Alley was an addition to the TRG Residential building on Main Street. to enhance the connection between Main Street and the Farmers Market structure. CPL created some conceptual designs to enhance the alley, and the city asked TRG to build it. TRG constructed the wall, but the final design implementation was left to the city. CPL created construction documents from the concept drawings and Triscapes has priced the changes.

Additionally, because Antebellum refused to grant the city a construction easement for a wall adjacent to their porch, CPL redesigned the Main Street streetscape in this area. This change order reflects credits associated with those changes. Finally, this change order also addresses a storm water pipe conflict.

FACTS AND ISSUES:

Triscapes has priced the finishes to the Farmers Market Alley, which includes modifications to the Depot stairs and handrail, additional pavers, the trellis, brick façade, lighting and security camera allowance, shutters, archway, fencing, landscaping and furniture. See the price breakdown for more detail.

Triscapes has credited the city for the Antebellum wall and priced landscaping, concrete banding, and pavers. See the price breakdown for more detail.

Triscapes has priced tying an unforeseen stormwater pipe into the existing system. See the price break down for more detail.

The city is deleting the four wheel stops that were part of the Antebellum easement deal that is not moving forward. We put the wheel stops into the contract in change order 3.

This change order will increase the contract by \$236,529.08 and add 90 days. The new contract completion date is November 3, 2022.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$236,529.08 - Transfer from Prior Year Surplus in the General Fund

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve Change Order #4 for the Farmers Market Project.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary - Change Order 4 - FM Alley.pdf](#)
- [G701-2017 - Final -CO # 004_Flowery Branch Farmers Market.pdf](#)
- [Supporting Documentation - CO 4.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Change Order 4 for Farmers Market Project

DATE: July 14, 2022

BUDGET INFORMATION:

ANNUAL- No change

CAPITAL- No change

(X) RECOMMENDATION

() POLICY DISCUSSION

() STATUS REPORT

() OTHER

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing Change Order 4 for Farmers Market Alley design implementation, Antebellum design changes, utility conflicts.

HISTORY: The Farmers Market Alley was an addition to the TRG Residential building on Main Street. to enhance the connection between Main Street and the Farmers Market structure. CPL created some conceptual designs to enhance the alley, and the city asked TRG to build it. TRG constructed the wall, but the final design implementation was left to the city. CPL created construction documents from the concept drawings and Triscapes has priced the changes. Additionally, because Antebellum refused to grant the city a construction easement for a wall adjacent to their porch, CPL redesigned the Main Street streetscape in this area. This change order reflects credits associated with those changes. Finally, this change order also addresses a storm water pipe conflict.

FACTS AND ISSUES: Triscapes has priced the finishes to the Farmers Market Alley, which includes modifications to the Depot stairs and hand rail, additional pavers, the trellis, brick façade, lighting and security camera allowance, shutters, archway, fencing, landscaping and furniture. See the price breakdown for more detail.

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This change order will increase the contract by \$236,529.08 and add 90 days. The new contract completion date is November 3, 2022.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I move to approve Change Order 4 for the Farmers Market project.

DEPARTMENT: Administration

Prepared by: Rich Edinger

**AIA**[®]**Document G701™ – 2017****Change Order****PROJECT:** *(Name and address)*
Flowery Branch Farmers Market,
Streetscapes & Pocket Park**CONTRACT INFORMATION:**

Contract For: 15429.00

Date: NTP 6-1-2021

CHANGE ORDER INFORMATION:

Change Order Number: 04

Date: 7-7-2022

OWNER: *(Name and address)*
City of Flowery Branch
5410 Pine Street**ARCHITECT:** *(Name and address)*
CPL
3011 Sutton Gate Drive, Suite 130,
Suwanee GA 30024**CONTRACTOR:** *(Name and address)*
Tri Scapes
1595 Peachtree Pkwy #204-396

Flowery Branch, GA 30078

Cumming, GA 30041

THE CONTRACT IS CHANGED AS FOLLOWS:*(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)*

1. Subtract 4 curb stops from Antebellum parking lot @ \$250 each - (\$1,000.00)
2. Construct Changes to Farmers Market Alley - \$414,732.00
3. Speaker and Security Camera Allowance - \$12,000.00
4. Take Credit for Antebellum streetscape re-design - (\$67,710.53)
5. Intercept unforeseen 15 inch RCP Pipe - \$7,650.00
6. Take Remaining contingency credit - (\$129,142.39)

Remaining contingency is (\$0.00) zero after executing this change order.

The original Contract Sum was	\$	4,011,350.00
The net change by previously authorized Change Orders	\$	0.00
The Contract Sum prior to this Change Order was	\$	4,011,350.00
The Contract Sum will be increased by this Change Order in the amount of	\$	236,529.08
The new Contract Sum including this Change Order will be	\$	4,247,879.08

The Contract Time will be increased by Ninety (90) days.

The new date of Substantial Completion will be 11-3-2022

NOTE: This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.CPL
ARCHITECT *(Firm name)*Triscapes
CONTRACTOR *(Firm name)*City of Flowery Branch
OWNER *(Firm name)***SIGNATURE**Rich Edinger, P.E., Vice President
PRINTED NAME AND TITLE**SIGNATURE**Ryan Hogan, Vice President
PRINTED NAME AND TITLE**SIGNATURE**Tonya Parrish, City Manager
PRINTED NAME AND TITLE**DATE****DATE****DATE**



Company Address 1595 Peachtree Parkway
Suite 204-396
Cumming, GA 30041
United States

Created Date 6/24/2022
Prepared By Ryan Hogan
Email ryan@triscapes.com

Reference CO_#05_ Farmers Market Alley

Product	Line Item Description	Quantity	UOM	Unit Price	TSI Total Price
Demolition	Remove Existing Wood Stairs & Associated Painted Metal Handrails & Guardrails	140.00	SF	\$7.50	\$1,050.00
Railing	Add railing where stairs were removed (to match existing)	20.00	LF	\$114.38	\$2,287.60
Fencing	2x6 Wood Slatted Privacy Screen Wall w 3/4" Gaping to Hide Underside of Deck (Continuous)	150.00	LF	\$86.25	\$12,937.50
Grading Complete	incl. cut, fill, materials testing, shop drawings, project management, etc.	1.00	LS	\$5,000.00	\$5,000.00
Electrical	Incl. all light fixtures, pole bases, conduit lines, string lights & archway lighting	1.00	LS	\$58,320.00	\$58,320.00
Electrical	Speakers and Security Camera's (low voltage wiring)	1.00	Allowance	\$12,000.00	\$12,000.00
Archway	Fabricated Steel Painted Archway Structure, 1" Deep Fabricated Painted Non-Illuminated Letters (Copy: FARMERS MARKET, 12" tall), Aluminum Clearance Bar (Painted 2" x 10" Tube, Vinyl Copy) - Overall Size: 11' 11-3/4" x 15'-6"	1.00	LS	\$48,720.00	\$48,720.00
Permit(s)	Archway Permit	1.00	LS	\$750.00	\$750.00
Brick Wall(s)	incl. EIFS system, & all brick, rebar, grout, masonry fasteners, stucco, steel & wood members, Trellis System (incl. all wood members, bolts, fasteners, concrete footings, & Wood Bench	1.00	LS	\$124,800.00	\$124,800.00
Shutter(s)	Non-operational Wood Shutters	5.00	EA	\$487.50	\$2,437.50
Hardscape	12" Thick, 4,000 psi w/ 5% Air Entrained Fiber Mesh, Gray Color, Finish Smooth Troweled Finish. Concrete Banding - Pavillion/Amphitheatre	280.00	SF	\$19.50	\$5,460.00
Pavers	Field Paver - Pavillion/Amphitheatre - Pavestone, Venetian Flag (60mm) Mocha Blend Heritage Color, AND 1" Mortar, AND Geotextile Fabric, AND 4" Thick 3,500 psi Concrete	215.00	SF	\$27.94	\$6,007.10
Pavers	Band Paver - Pavillion/Amphitheatre - Pavestone, Venetian Stone, Size 6x9x60mm Charcoal Color, AND 1" Mortar, AND Geotextile Fabric, AND 4" Thick 3,500 psi Concrete	100.00	SF	\$27.94	\$2,794.00
Landscape Mulch	4" Shredded Aged Hardwood Mulch	2.00	CY	\$121.88	\$243.76
Landscape - Trees	6' Min. Ht. x 2" Min. Cal. (B&B) Carpinus Caroliniana, Iron Wood Tree	2.00	EA	\$412.50	\$825.00
Site Furnishings	Teak Stacking Armchair by Country Casual Teak (Foxhall Collection)	50.00	EA	\$1,931.25	\$96,562.50
Site Furnishings	36" Round Teak Dining Tables by Country Casual Teak (Foxhall Collection)	17.00	EA	\$2,737.50	\$46,537.50

Total Price

\$426,732.46

Proposal Notes

Proposal Notes

1) This Change Order becomes part of and in conformance with the existing Contract.



2) Added Contract Workdays is not an added-in Contract cost/charge/expense but an estimated number of additional work days needed to complete this Change Order request.

3) No Addendum(s) are acknowledged.

***Change Order priced per plan pages (dated on or before

Note: Price good for 15 days

Approval

Company/Owner/Representative: _____

Authorized Signature: _____

Date: _____

*****NOTE: Prices good for 15 Days*****



FLOWERY BRANCH,
GEORGIA 30542

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
7/22/2022	MSB	KSG
SHEET TITLE		

COVER SHEET

SHEET NUMBER

CS

FLOWERY BRANCH, GEORGIA 30542

An aerial photograph of a suburban neighborhood. A black circle highlights a property with a yellow roof, situated near a railroad track and a street. A vertical line points from the text 'See map below' to this circled area. The surrounding area includes houses, trees, and a baseball field.

GENERAL NOTES

- GENERAL CONTRACTOR (GC) SHALL SURVEY JOB SITE PRIOR TO COMMENCING WORK AND SHALL VERIFY ALL DIMENSIONS AND NOTE ALL CONDITIONS WHICH WILL AFFECT OR BE AFFECTED BY WORK ON THIS PROJECT AND ALL CONDITIONS OR DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT. FAILURE TO DO SO WILL NOT JUSTIFY ANY ADDITIONAL CHARGES.
2. DO NOT SCALE DRAWINGS. IF A DIMENSION IS NEEDED, CONTACT THE ARCHITECT.
3. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES WHICH OCCUR WITHIN THE CONTRACT DOCUMENTS PRIOR TO THE ORDERING OF MATERIALS OR EXECUTION OF WORK.
4. CONTRACTOR SHALL WARRANTY ALL WORK FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.
5. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE CODES, LAWS, RULES AND REGULATIONS OF ALL CONSTITUTED PUBLIC AUTHORITIES HAVING JURISDICTION.
6. THESE PLANS HAVE BEEN PREPARED IN CONFORMITY WITH THE GEORGIA ACCESSIBILITY CODE FOR MAKING BUILDINGS AND FACILITIES ACCESSIBLE TO AND USABLE BY PHYSICALLY HANDICAPPED PEOPLE, TO THE BEST OF OUR KNOWLEDGE. INFORMATION AND BELIEF, FOR THE SCOPE OF WORK HEREIN SUBMITTED.
7. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, INSPECTIONS, FEES, ETC.
8. CONTRACTOR SHALL CLEAN ALL SPACES AND SURFACES THOROUGHLY UPON COMPLETION OF THE WORK, INCLUDING REMOVING DUST, DEBRIS, OILS, STAINS, FINGERPRINTS AND LABELS FROM EXPOSED FINISHED SURFACES, INCLUDING GLAZING.
9. PROJECT CLEANUP SHALL INCLUDE A "VACUUM CLEAN" INTERIOR SPACE WITH RESTORATION OF ALL DAMAGED SURFACES AND ITEMS TO "LIKE NEW" CONDITION.
10. THE TERM "PROVIDE" MEANS TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
11. THE TERM "FURNISHED" MEANS THAT THE ITEM SHALL BE SUPPLIED BY OTHERS FOR INSTALLATION BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
12. PROVIDE LABOR, MATERIAL, EQUIPMENT AND SERVICES REQUIRED TO EXECUTE AND COMPLETE ALL ITEMS OF WORK AS SHOWN OR INDICATED ON THE DRAWINGS AND AS SPECIFIED IN THE SCHEDULED ITEMS TO EFFECT A FINISHED AND COMPLETE JOB, EVEN THOUGH SUCH ITEMS ARE NOT SHOWN OR PARTICULARLY MENTIONED.
13. CONTRACTOR SHALL USE CONSTRUCTION METHODS THAT ARE IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
14. STRUCTURAL WORK, INCLUDING MATERIAL STRESSES AND METHODS OF CONSTRUCTION, SHALL BE IN COMPLIANCE WITH THE STANDARD BUILDING CODE, OSHA AND GOVERNING AGENCIES HAVING JURISDICTION. CONTRACTOR TO USE STRUCTURAL DRAWINGS FOR EXACT LOCATION AND SIZE OF STRUCTURAL MEMBERS.
15. AFTER COMPLETION OF WORK ALL ADDITIONAL MATERIALS REMAINING DUE TO CONSTRUCTION SHALL BECOME THE PROPERTY OF THE GENERAL CONTRACTOR AND SHALL BE DISPOSED OF / REMOVED FROM THE SITE IN ACCORDANCE WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS UNLESS NOTIFIED OTHERWISE. CONTRACTOR SHALL ALSO REMOVE ALL WASTE DEBRIS, RULERS, TAPES, AND OTHERS TOOLS AND EXCESS MATERIALS UPON COMPLETION OF WORK. THROUGHOUT CONSTRUCTION, SITE SHALL BE ORGANIZED AND CLEANED BY CONTRACTOR ON A DAILY BASIS.

O.C.G.A. NOTES

1. THE REGISTERED ARCHITECT WHO SEALED THE TECHNICAL SUBMISSIONS HAS NOT BEEN EMPLOYED TO FURNISH CONSTRUCTION ADMINISTRATION SERVICES. (O.C.G.A. TITLE 43 CHAPTER 4 ARTICLE 1 PARAGRAPH 43-4-16(F))

BUILDING NOTES

1. NONE.

LIFE SAFETY NOTES

1. NONE.

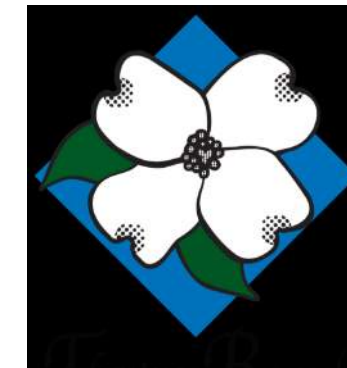
ADA NOTES

1. ALL FLOOR SURFACES ALONG ACCESSIBLE ROUTES AND IN ACCESSIBLE ROOMS AND SPACES INCLUDING FLOORS, WALKS, RAMPS, AND STAIRS SHALL BE STABLE, FIRM, AND SLIP-RESISTANT AND COMPLY WITH THE ACCESSIBLE REQUIREMENTS FOR CHANGES IN LEVEL AND CARPET FLOORING. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTIONS 302 AND 303)
2. TURNING SPACE SHALL BE 60 INCHES IN DIAMETER MINIMUM OR 60 INCH SQUARE WITH ARMS AND BASE 36 INCHES WIDE MINIMUM. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 304)
3. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 304.4)
4. HANDLES, PULLS, LATCHES, LOCKS, AND OTHER OPERABLE PARTS ON DOORS AND GATES SHALL COMPLY WITH SECTION 304.4. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34 INCHES MINIMUM AND 48 INCHES MAXIMUM ABOVE THE FINISHED FLOOR OR GROUND. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 404.2.7)
5. DOOR OPENINGS SHALL PROVIDE A CLEAR WIDTH OF 32 INCHES MINIMUM. CLEAR OPENINGS OF DOORWAYS WITH SWINGING DOORS SHALL BE MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP, WITH THE DOOR OPEN 90 DEGREES. (GEORGIA ACCESSIBILITY CODE CHAPTER 120-3-20(.01-.08) 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN SECTION 404.2.3)



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5410 PINE STREET
FLOWERY BRANCH, GA 30542
(770) 967-6371

FARMERS
MARKET ALLEY
PROJECT

FLOWERY BRANCH
GEORGIA 30542

REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	MSB	KSG
SHEET TITLE		

NOTES	
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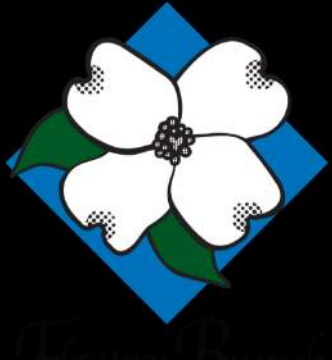
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N-1



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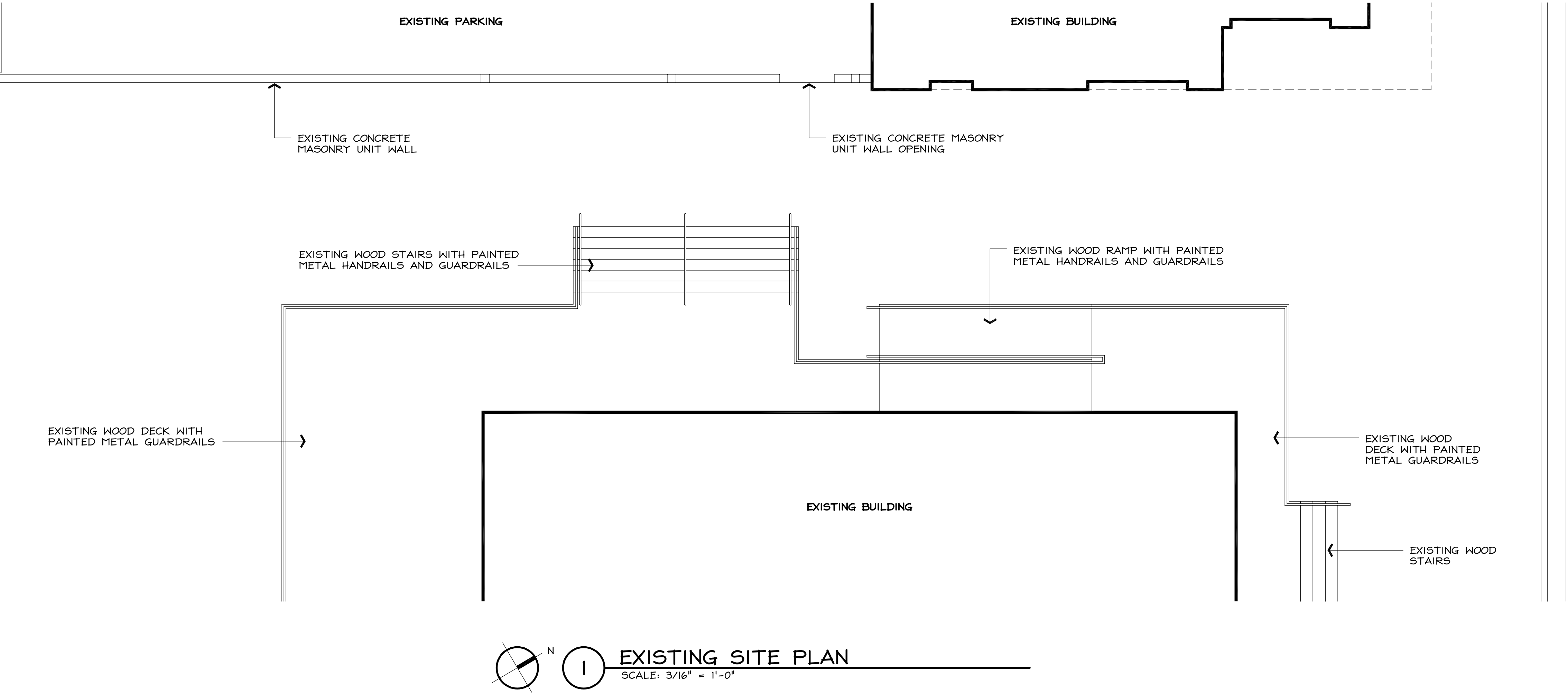
FARMERS
MARKET ALLEY
PROJECT

FLOWERY BRANCH,
GEORGIA 30542

REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
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EXISTING SITE PLAN		

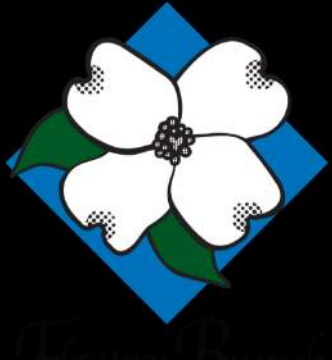
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EX-1





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FARMERS
MARKET ALLEY
PROJECT

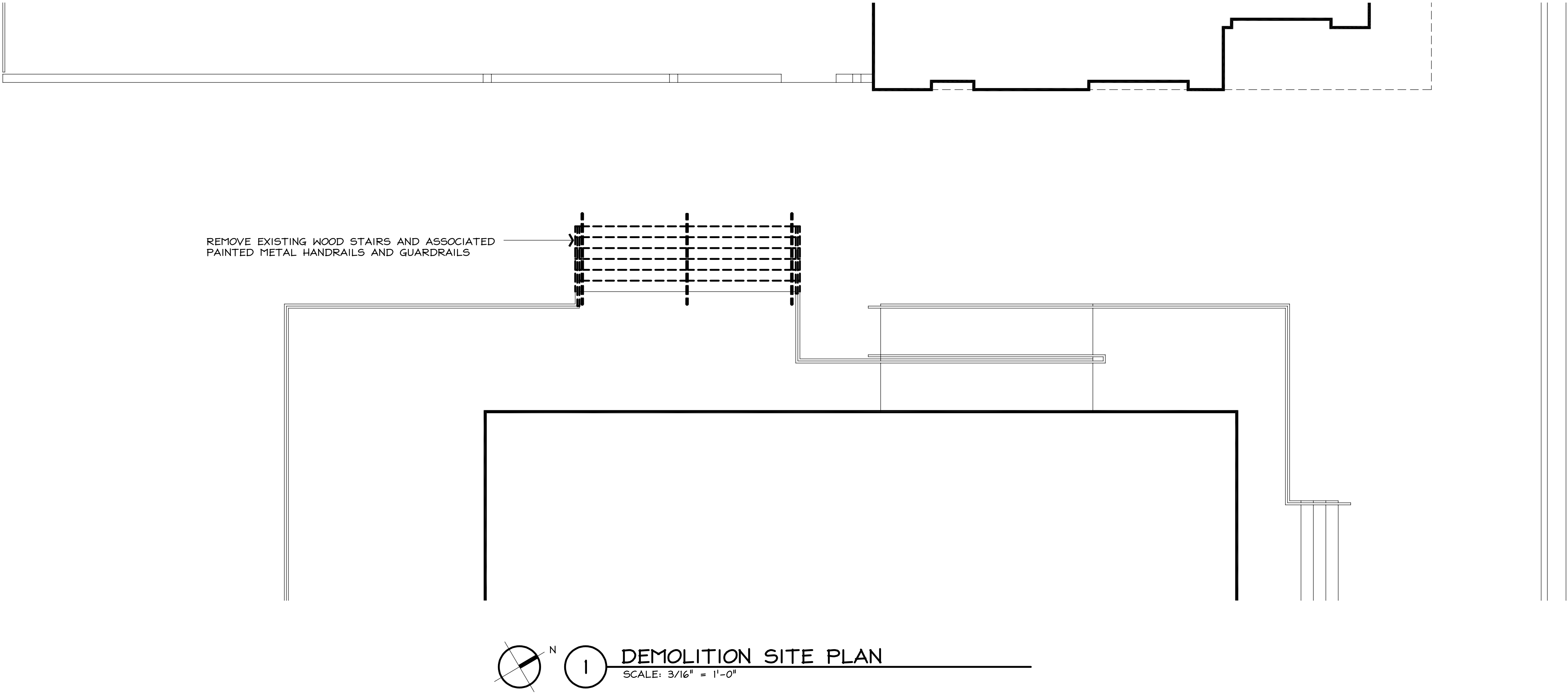
FLOWERY BRANCH,
GEORGIA 30542

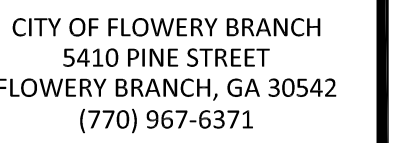
REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	MSB	KSG
SHEET TITLE		
DEMOLITION SITE PLAN		

SHEET NUMBER

D-1





FARMERS
MARKET ALLEY
PROJECT

LOWERY BRANCH,
GEORGIA 30542



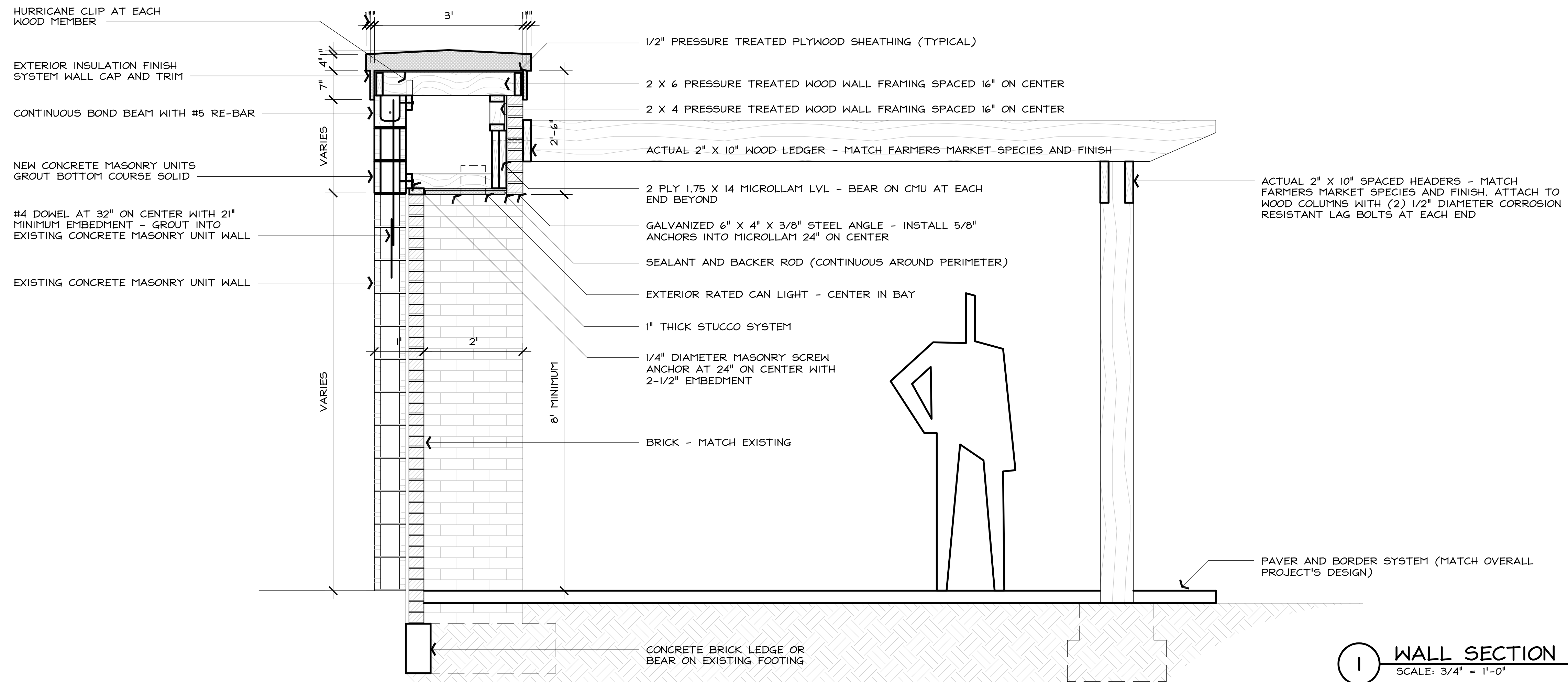
REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
7/22/2022	MSB	KSG
SHEET TITLE		

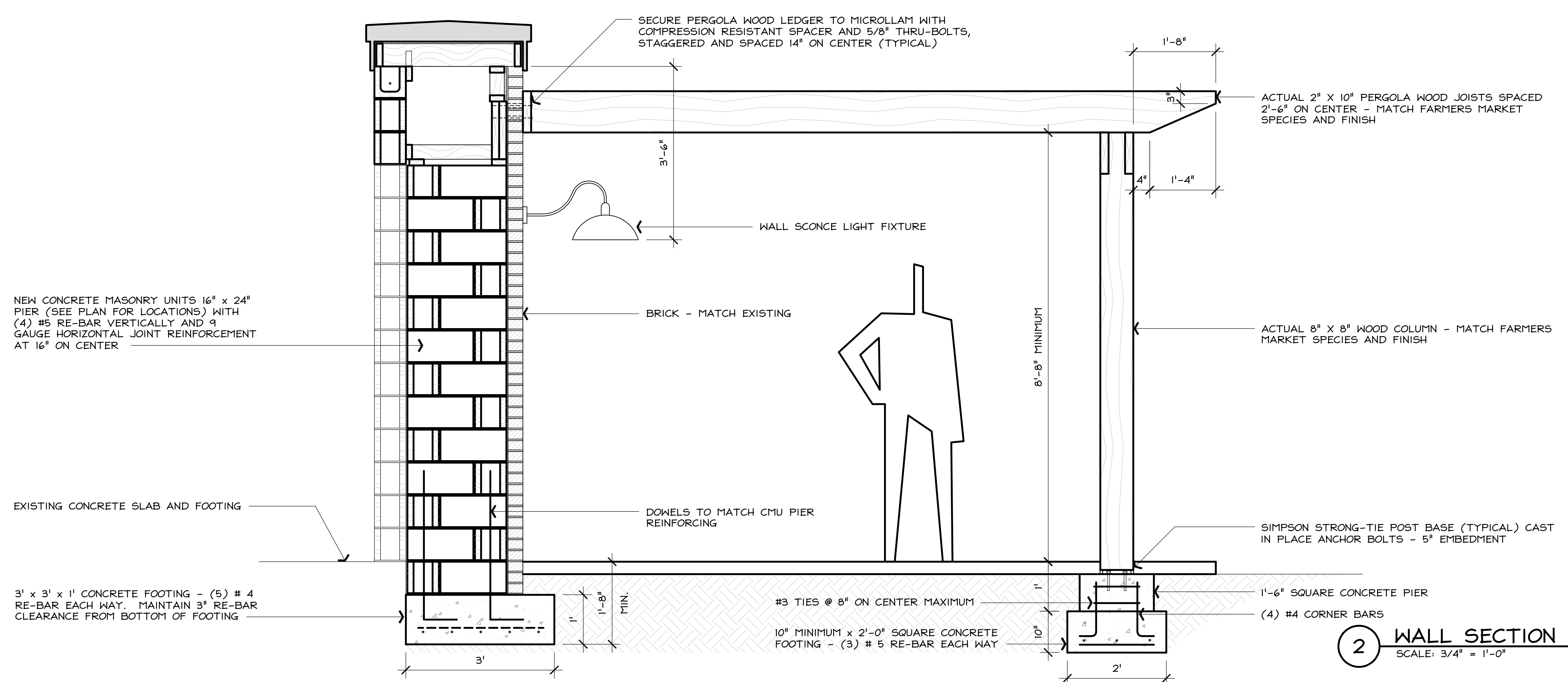
ARCHITECTURAL
SITE PLAN

SHEET NUMBER

A-1



1 WALL SECTION
SCALE: 3/4" = 1'-0"



2 WALL SECTION
SCALE: 3/4" = 1'-0"

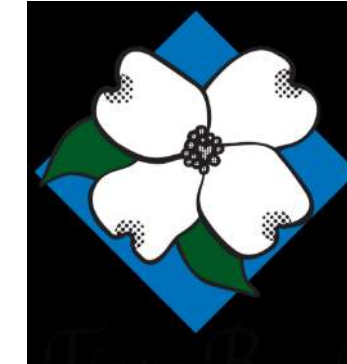
REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	MSB	KSG
SHEET TITLE		
WALL SECTIONS		

SHEET NUMBER
A-2



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FLOWERY BRANCH, GA 30542
(770) 967-6371

FARMERS MARKET ALLEY PROJECT

FLOWERY BRANCH,
GEORGIA 30542

REVISIONS

NUMBER	DATE
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CPL PROJECT NUMBER
15429.00

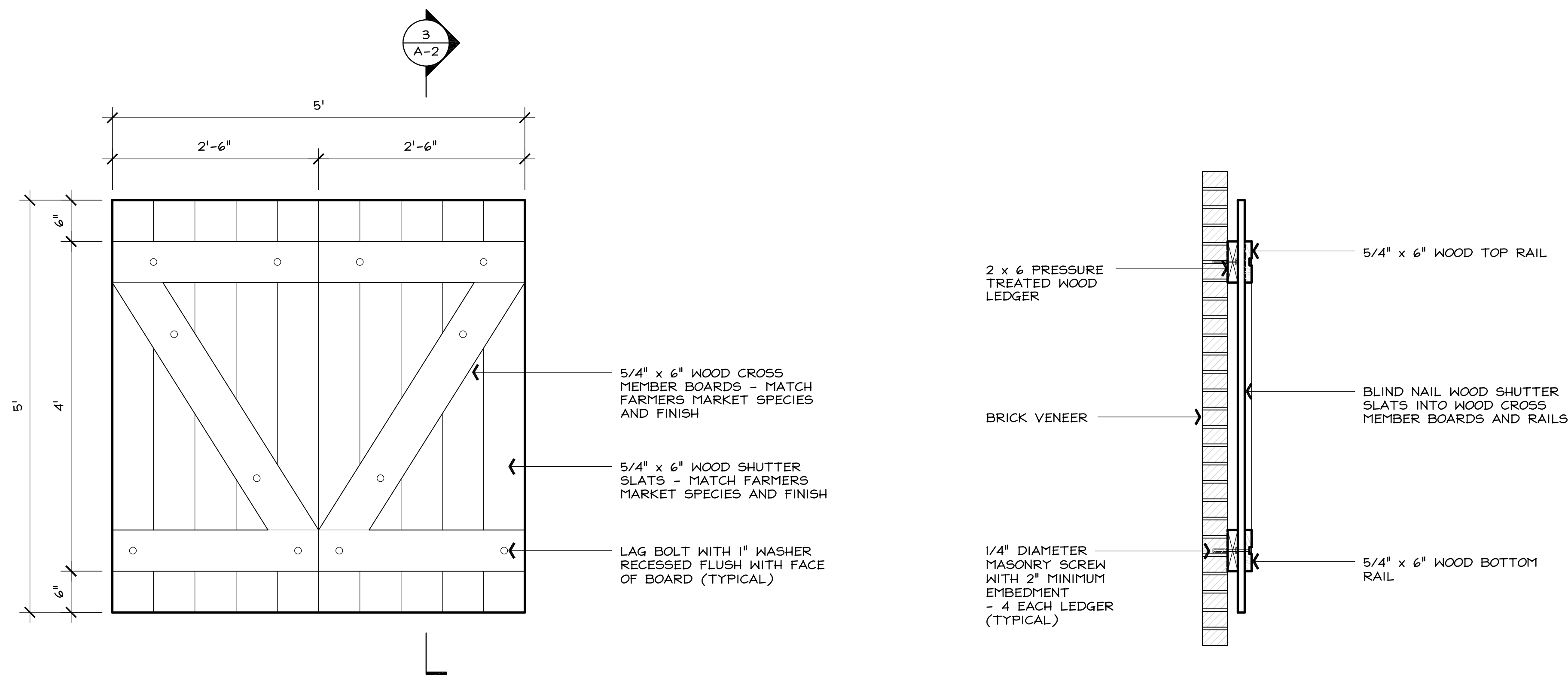
DATE	DRAWN	CHECKED
02/22/2022	MSB	KSG

SHEET TITLE

WALL ELEVATION
AND DETAILS

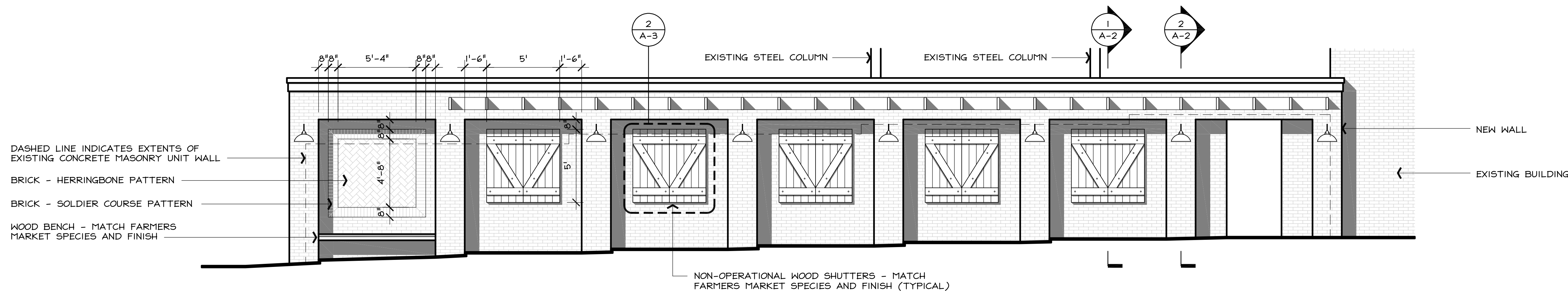
SHEET NUMBER

A-3



2 DETAIL
SCALE: 1" = 1'-0"

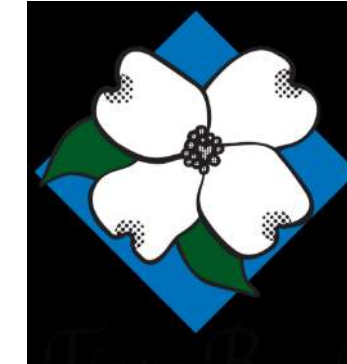
3 DETAIL SECTION
SCALE: 1" = 1'-0"



1 ELEVATION
SCALE: 1/4" = 1'-0"



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FARMERS MARKET ALLEY PROJECT

FLOWERY BRANCH,
GEORGIA 30542

REVISIONS	
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02/22/2022	MSB	KSG

SHEET TITLE

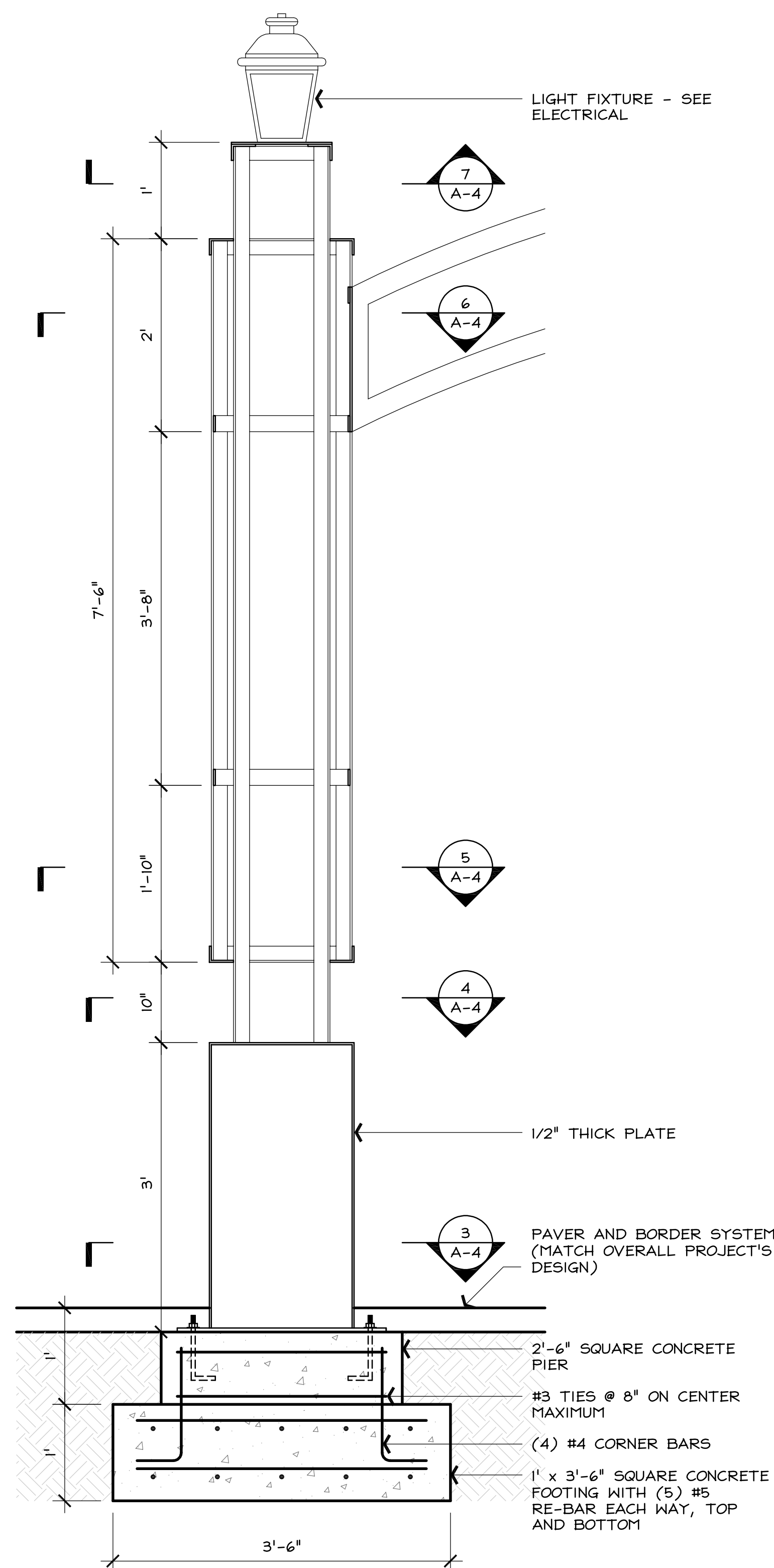
ARCHWAY
DETAILS

SHEET NUMBER

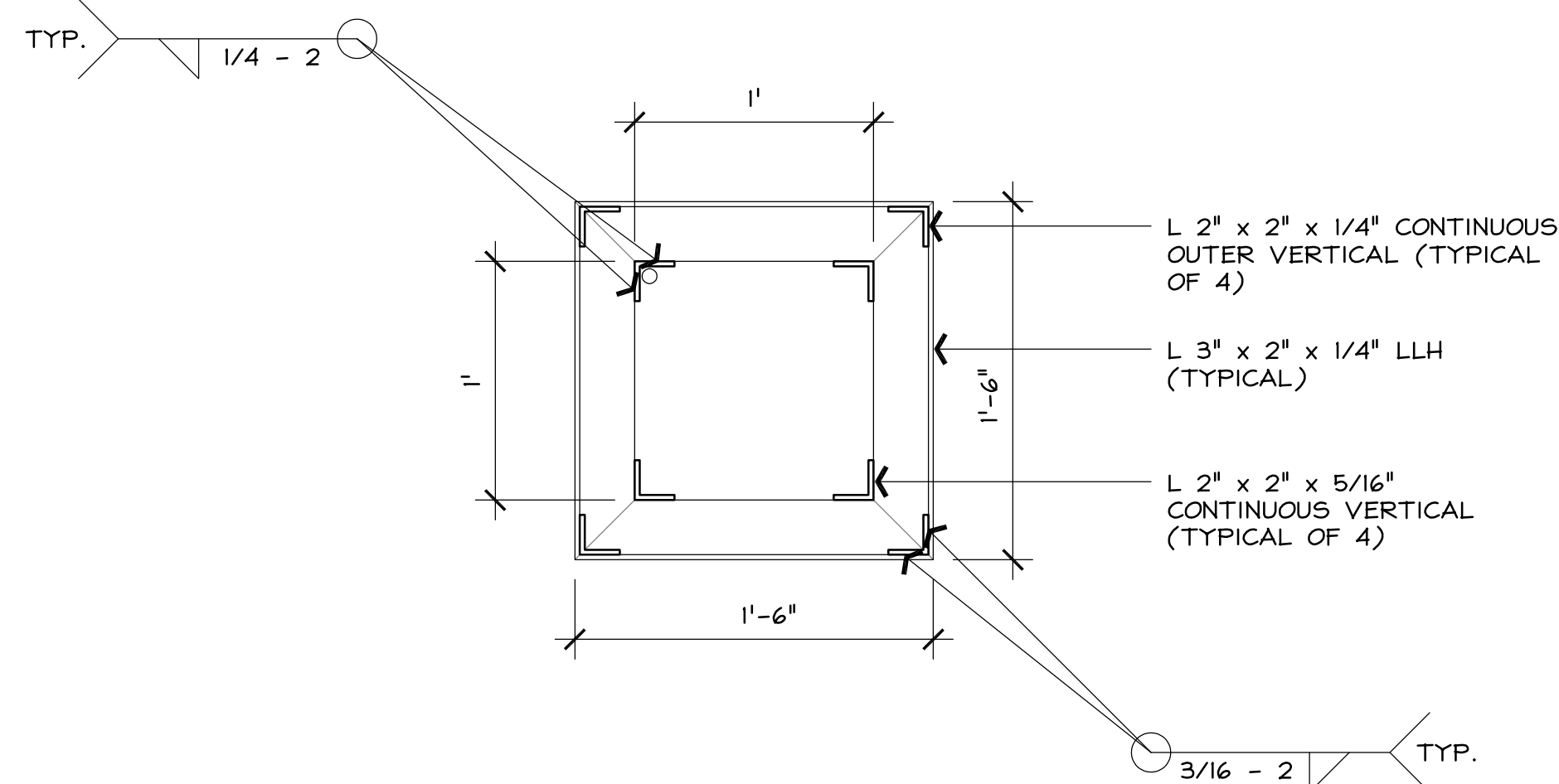
A-4

GENERAL NOTES

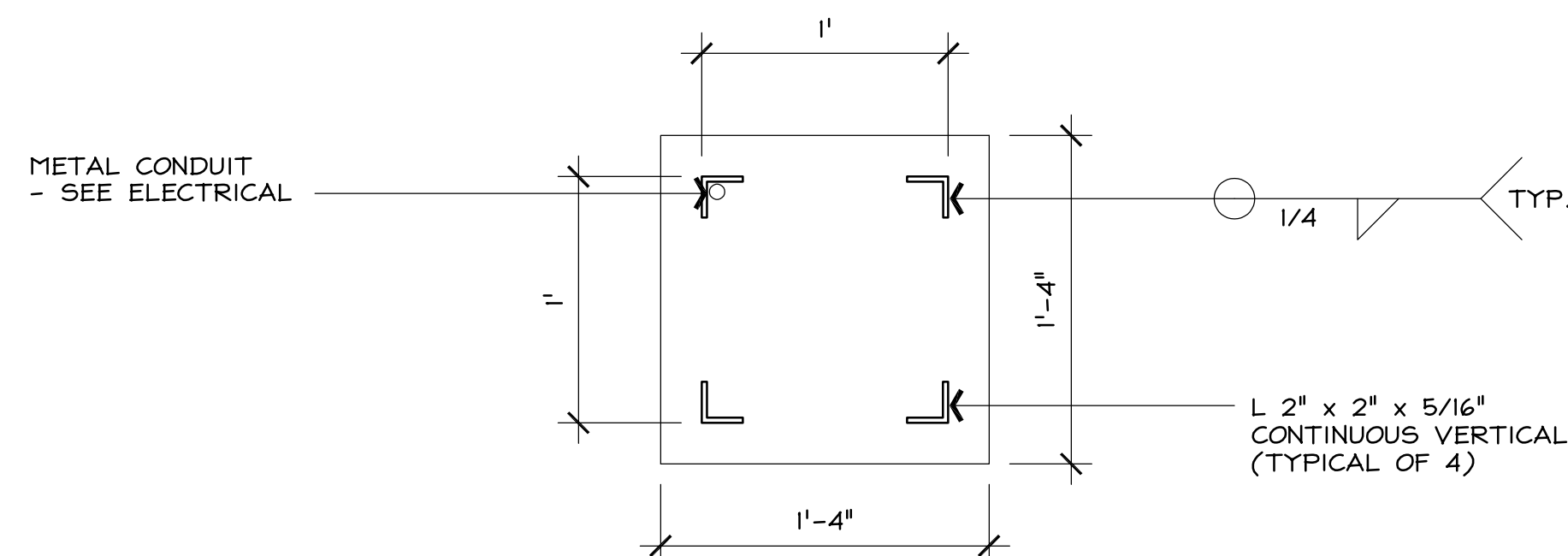
1. ARCHWAY STEEL FRAME AND SYSTEM SHALL MEET THE REQUIREMENTS OF ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) CATEGORY 4 REQUIREMENTS.
2. ALL EXPOSED STEEL SHALL BE PROTECTED. COORDINATE WITH ARCHITECTURAL REQUIREMENTS FOR PAINTING, COATING, OR GALVANIZING REQUIREMENTS.



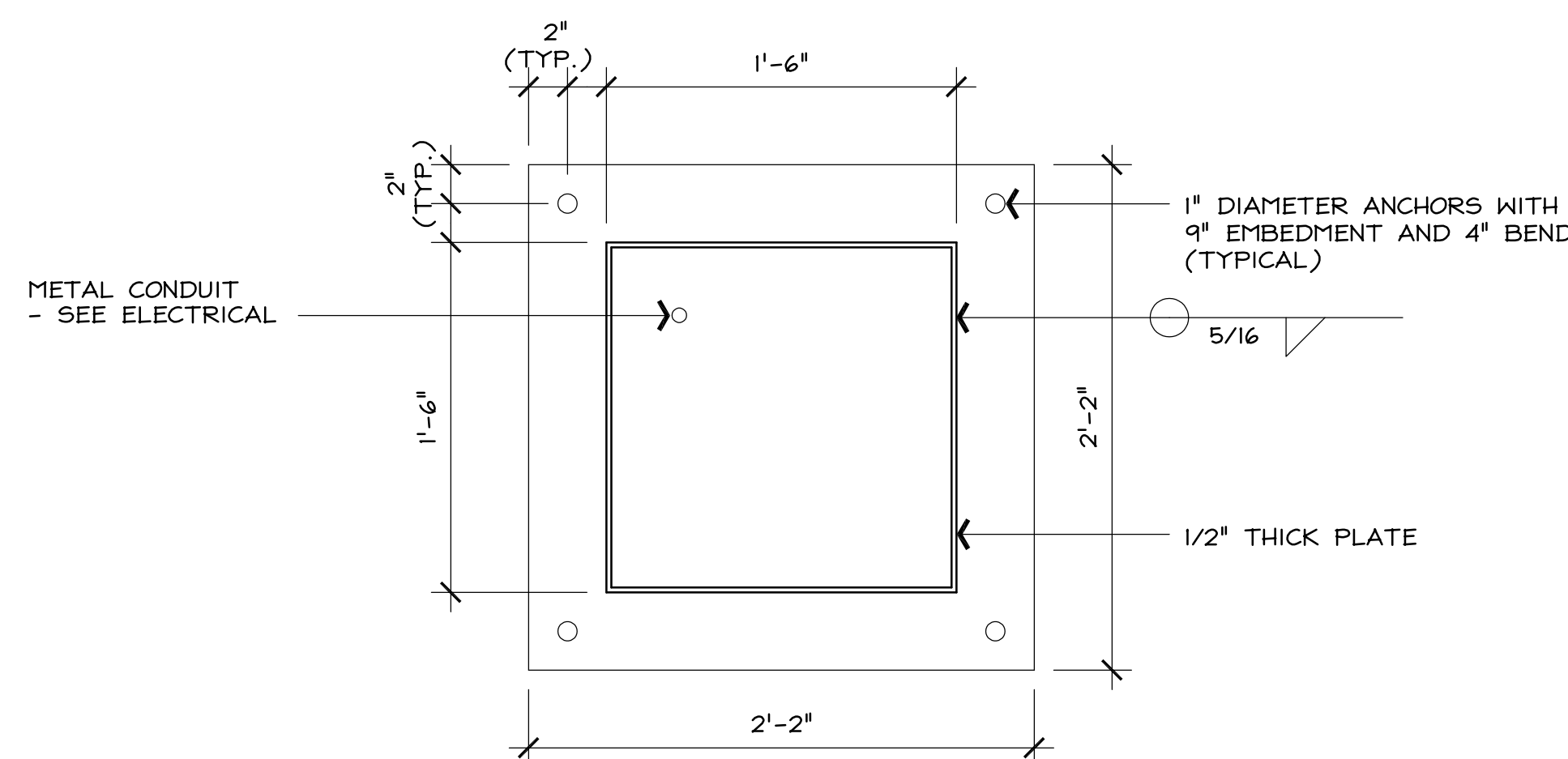
2 SECTION
SCALE: 1" = 1'-0"



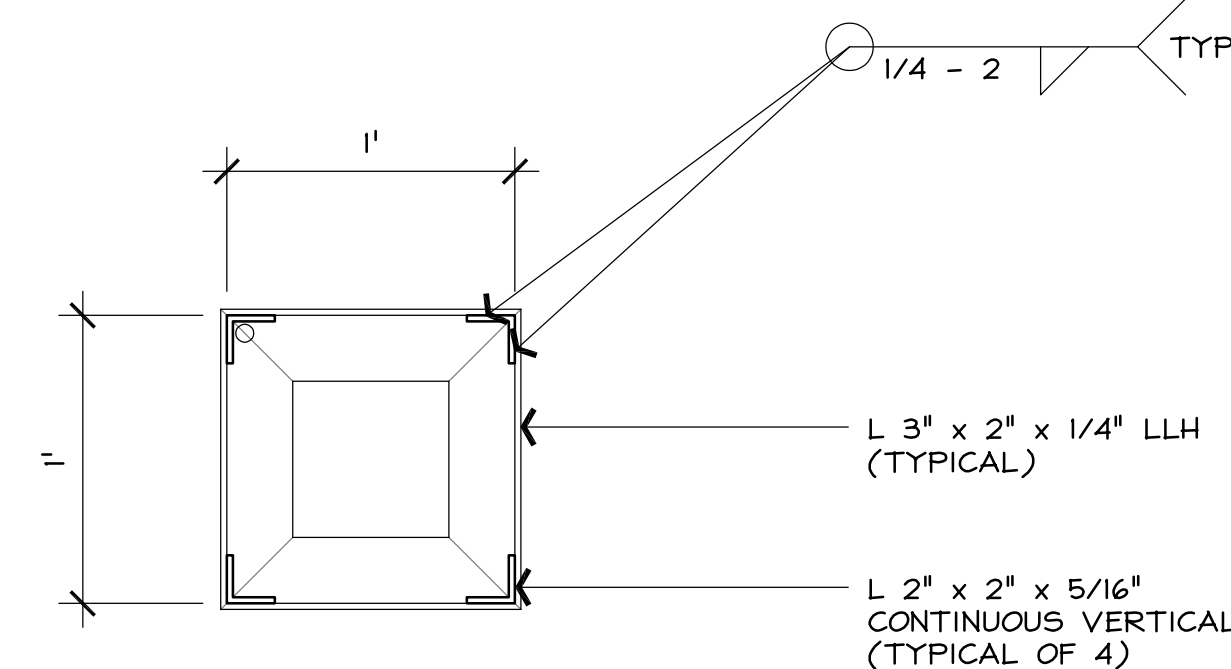
5 SECTION
SCALE: 1-1/2" = 1'-0"



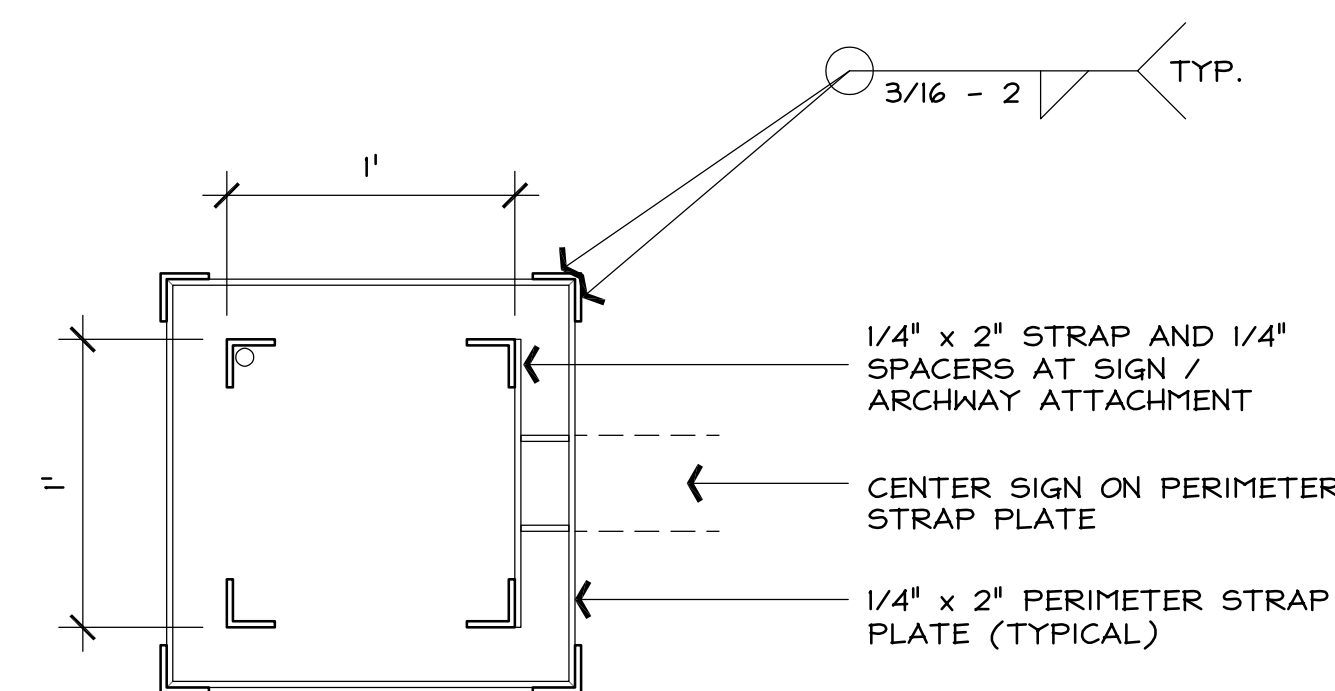
4 SECTION
SCALE: 1-1/2" = 1'-0"



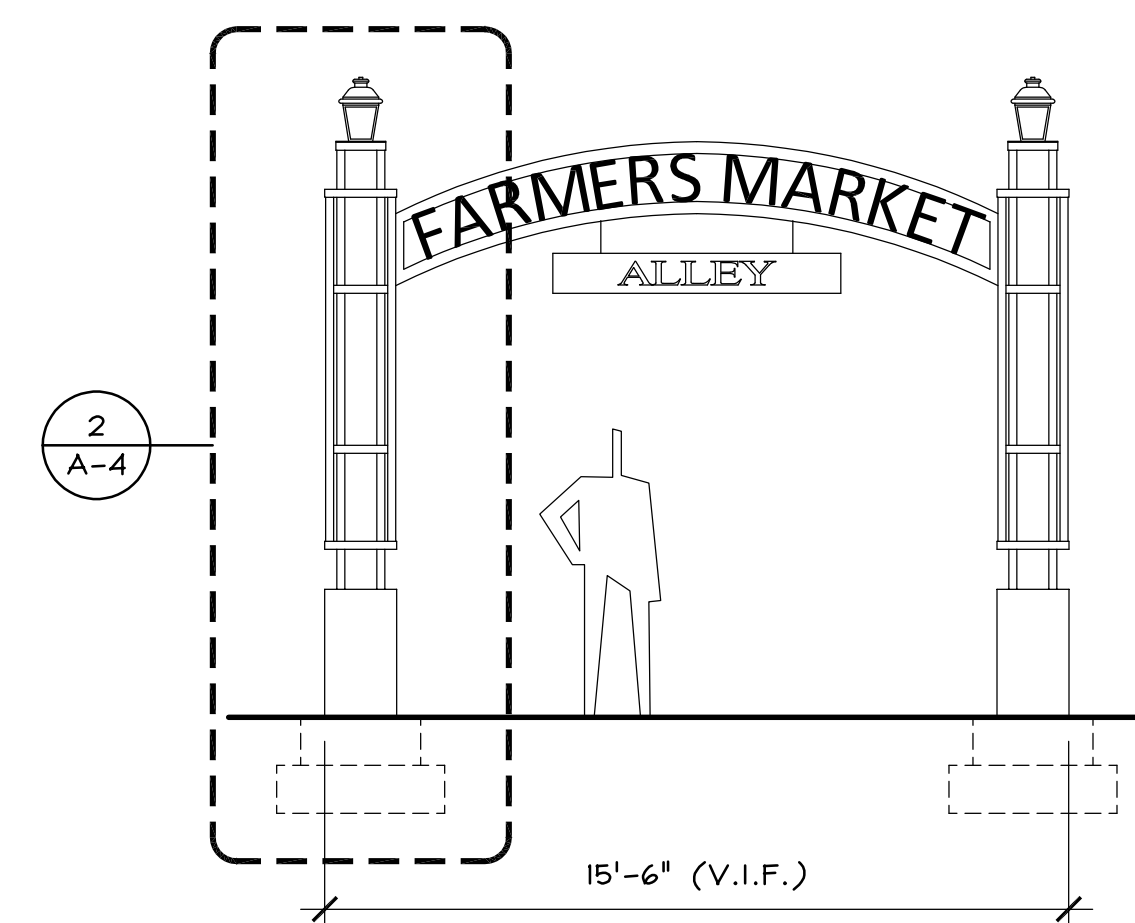
3 SECTION
SCALE: 1-1/2" = 1'-0"



7 SECTION
SCALE: 1-1/2" = 1'-0"



6 SECTION
SCALE: 1-1/2" = 1'-0"



1 ELEVATION
SCALE: 1/4" = 1'-0"

SYMBOL LEGEND

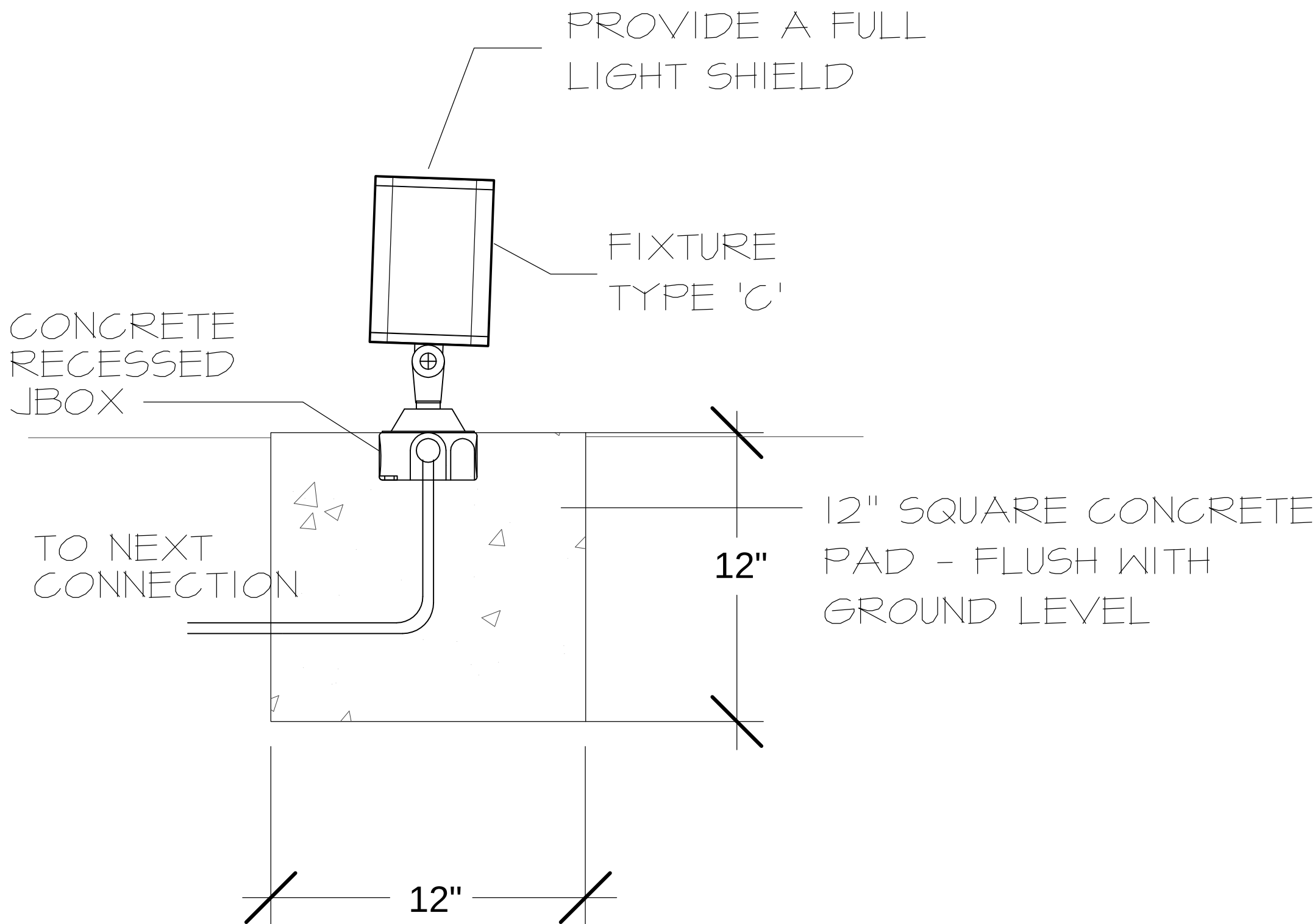
MOUNTING HEIGHT IS FROM FINISHED FLOOR TO CENTERLINE OF DEVICE OR OUTLET. HEIGHT MAY VARY TO COINCIDE WITH BUILDING CONSTRUCTION		
SYMBOL	DESCRIPTION	MOUNTING HEIGHT
AFF	ABOVE FINISHED FLOOR	
WP	WEATHER PROOF	
	CROSS HATCHING REPRESENTS GROUND, NEUTRAL AND HOT RESPECTIVELY, ARROW REPRESENTS HOME RUN	
	CONDUIT CONCEALED IN WALL OR ABOVE CEILING	
	SPEAKER CABLE - COLOR TO BEST MATCH SURROUNDING SURFACE CONCEAL AS MUCH AS POSSIBLE.	
	RECESSED LED LIGHTING FIXTURE - SEE SCHEDULE	
	EXTERIOR PENDANT MOUNTED LANTERN STYLE LIGHTING FIXTURE	
	RECESSED LED LIGHTING FIXTURE - SEE SCHEDULE	
	LED STRING LIGHTING FIXTURE - SEE SCHEDULE	
	EXTERIOR TREE UPLIGHT FIXTURE	
	EXTERIOR LED POST TOP LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE.	
	BOSE 251 WEATHERPROOF SPEAKERS. MT AS DIRECTED BY ARCHITECT. COLOR TO BEST MATCH SURROUNDING SURFACE. R or L NEXT TO SPEAKER INDICATES LEFT OR RIGHT CHANNEL CONNECTION.	
	BOSE SOUND TOUCH SA-5 AMPLIFIER. MT AS DIRECTED BY ARCHITECT. SHELF OR WALL MOUNTING ARE OPTIONS. CONNECT SPEAKERS AS INDICATED TO LEFT OR RIGHT CHANNELS.	
	SECURITY SYSTEM CAMERA - MOUNT AS DIRECTED BY ARCHITECT. MAKE A BLUE TOOTH CONNECTION TO BASE STATION.	
	SECURITY SYSTEM BASE STATION - MOUNT AS DIRECTED BY ARCHITECT. SEE NOTES FOR ADDITIONAL REQUIREMENTS.	
	GROUND FAULT CURRENT INTERRUPTER TYPE DUPLEX RECEPTACLE	48" AFF.
	JUNCTION BOX WITH COVERPLATE - CEILING MOUNTED AND WALL MOUNTED	
	PANELBOARD 208Y/120 VOLTS	

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MOUNTING	VOLT	LAMPS		BALLAST		WATTS	MANUFACTURER
				TYPE	NO.	TYPE	NO.		
A	FOUR INCH LED DOWNLIGHT WITH CLEAR ALZAK REFLECTOR, REFLECTOR TRIM EDGE, DIMMABLE LED LAMPS. MEDIUM DISTRIBUTION REFLECTOR.	RECESSED	120	LED - 3500K	-	ELECTRONIC	-	32	PORTFOLIO LD4B 15 D010TR/ EU4B 1020 90 35/4LBM 2 H
B	LED WALL SCNCE WITH GOOSE NECK MOUNTING ARM, FINISH AS DIRECTED BY THE ARCHITECT, AND HEIGHT AS SHOWN IN WALL SECTION 2/A-2.	WALL - SEE WALL SECTION 2/A-2	120	1000 LUMENS LED - 3500K	-	ELECTRONIC	-	13	ANP LIGHTING BEL14-M010LDD-N-35K-SRTCW-E36-41-UNV
C	EXTERIOR LED ACCENT LIGHT FOR FLAG POLE AND TREE UPLIGHTS. FINAL ADJUSTMENT SHALL BE AT NIGHT WITH THE ARCHITECT/ENGINEER.	GROUND MOUNTED SEE DETAIL 2/E1.01	120	LED - 3500K	-	ELECTRONIC	-	10	ECOSENSE F080 1S HO 35 9 E3 K F A
D	NOT USED AS A LIGHTING FIXTURE DESIGNATION.								
E	TWIN HEAD EMERGENCY BATTERY FIXTURE WITH HOUSING COLOR DIRECTED BY THE ARCHITECT. 6 VOLT NI-CAD BATTERY, AND LED LAMPS.	WALL AT 8'-6" AFF OR AS NOTED	120	FURNISHED	2	N/A	-	11	SURELITE SELD W _ A 50 * SD
F	DECORATIVE SUSPENDED LED STRING LIGHT SYSTEM WITH WATERPROOF SOCKETS, STAINLESS STEEL AIRCRAFT SUPPORT CABLE, WITH TURNBUCKLE SUPPORT CONNECTIONS, AND VINTAGE LAMPS ON 24" CENTERS.	SUSPEND AT SUPPORT POINTS AT 8'-6" AFF WITH 1/2" EYEBOLT.	120	FILAMENT LED	24" OC	N/A	-	--	PRIMUS DSW 24 120 PLED ST19F 2W 22K TBK 18'-0"ea run
G	DECORATIVE COLUMN MOUNTED LED TRADITIONAL LIGHT SYSTEM WITH WATERPROOF RATING, COLUMN MOUNT BASE, 365 CAST BODY WITH BLACK POWDER COAT PAINT. FROSTED ACRYLIC GLASS.	MOUNT ON TOP OF ENTRY COLUMN ON A COLUMN MOUNT BASE	120	LED - 3500K	-	ELECTRONIC	-	10	ANP LIGHTING LA111-1-FR-P029LD4D-T5-35K-CM-41
POLE	10' ROUND STEEL POLE WITH POWDER COAT BLACK FINISH, 3" DIAMETER, 11 GAUGE STEEL, AND CLOSED TOP. PROVIDE A MOUNTING HOLE FOR A 1/2" EYEBOLT WITH DOUBLE LOCKING NUT AT 8'-6" AFF. PAINT TO MATCH THE POLE.	MOUNT ON CONCRETE BASE AS SHOWN IN DETAIL 2/E102	-	-	-	-	-	--	LYTE POLES 101-30-11-10-AB-**BK

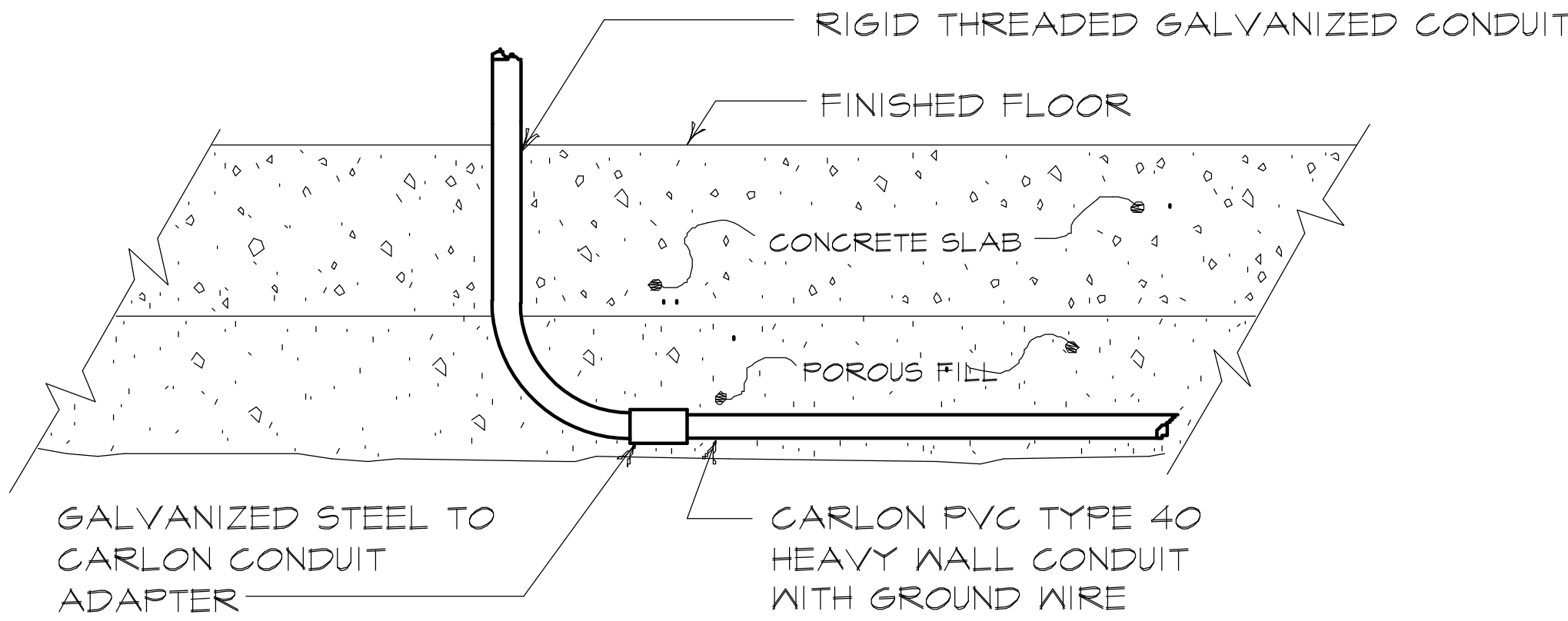
LIGHTING FIXTURE SCHEDULE NOTES:

1. ALTERNATE SUPPLIERS OF SPECIFIED EQUIPMENT WILL BE ACCEPTABLE ONLY BY FORMAL SUBMITTAL 10 DAYS PRIOR TO BID.



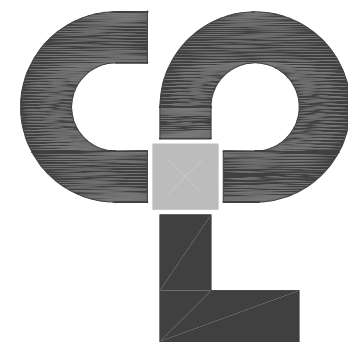
PART PLAN - TREE UP LIGHTING FIXTURE MOUNTING

NOT TO SCALE

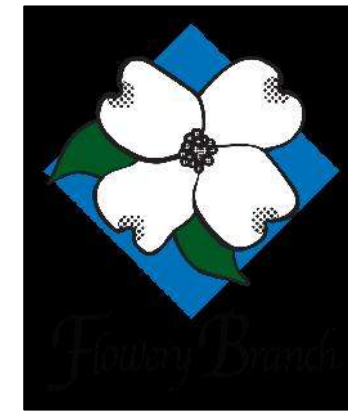


DETAIL - CONDUIT FROM BELOW SLAB

NOT TO SCALE



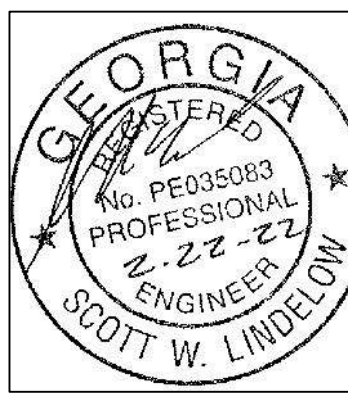
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MARKET ALLEY
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NUMBER	DATE

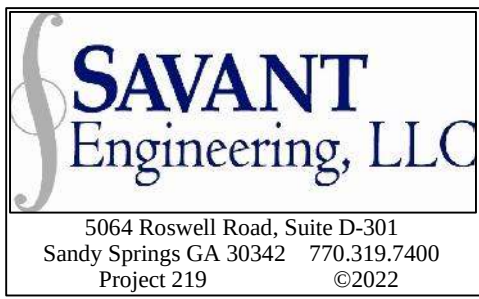
CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	JBK	SWL

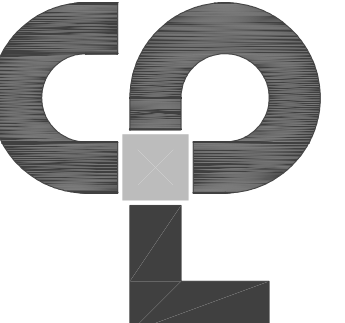
SHEET TITLE

ELECTRICAL
INSTALLATION DETAILS,
SYMBOL LIST,
and LIGHTING FIXTURE
SCHEDULE

SHEET NUMBER

E101





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REVISIONS	
NUMBER	DATE

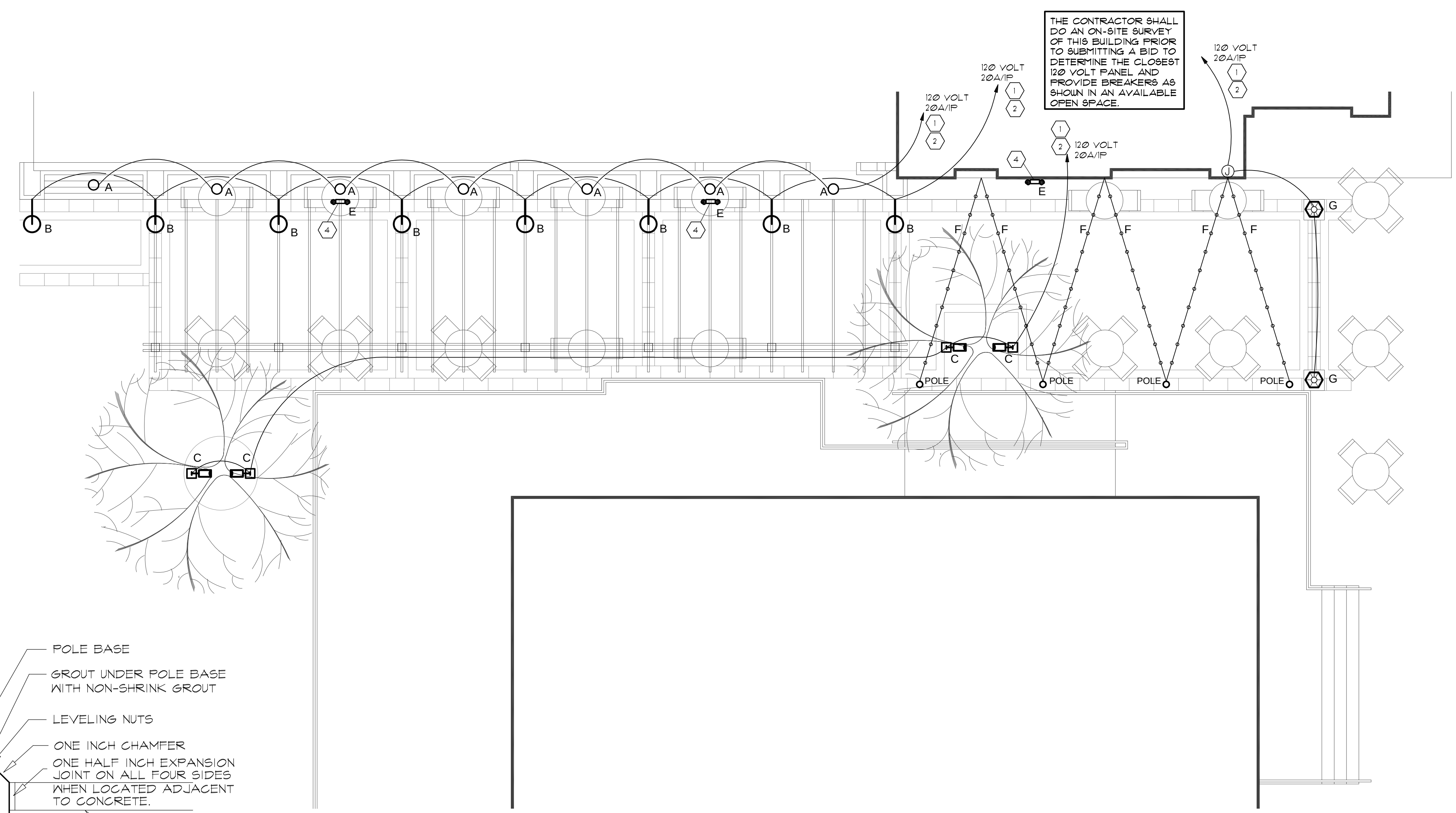
CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	JBL	SWL
SHEET TITLE		
SITE PLAN LIGHTING		

SHEET NUMBER

E201



5064 Roswell Road, Suite D-301
Sandy Springs GA 30342 770.319.7400
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1

SITE PLAN - LIGHTING

SCALE: 3/16" = 1'-0"

NOTE:

DRAWING SCALE FOR THIS SHEET IS 3/16" = 1'-0"

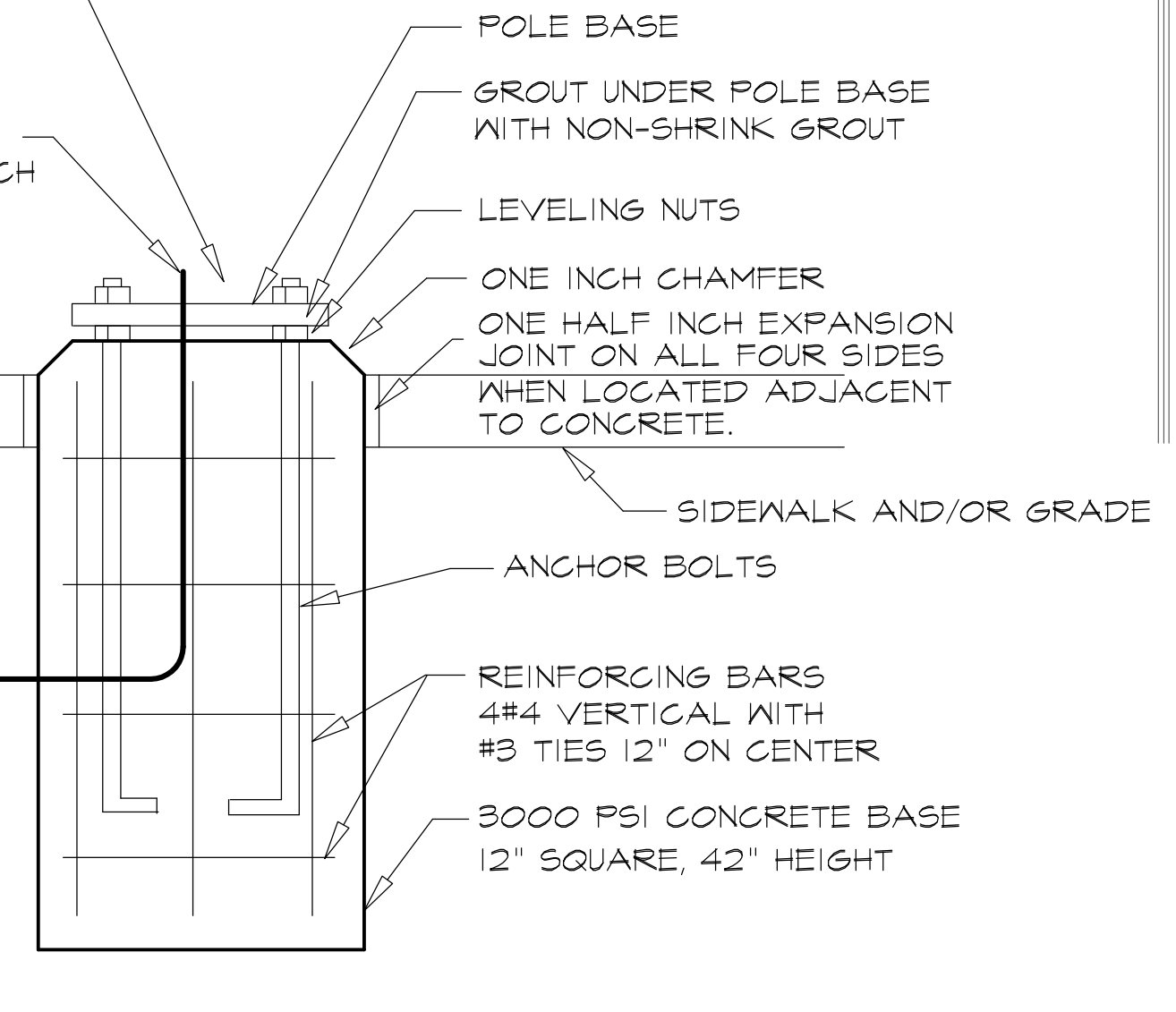
2

POLE BASE DETAIL

NOT TO SCALE

FURNISH AND INSTALL EACH POLE WITH POLE BASE PEDESTAL COVER (NOT SHOWN). PEDESTAL COVER SHALL CONCEAL ALL ANCHOR BOLTS.

PROVIDE AND INSTALL (1) 5/8"x5' COPPERCLAD GROUND ROD AT EACH POLE BASE. RUN #10 GND FROM ROD AND CONNECT TO POLE ASSEMBLY.

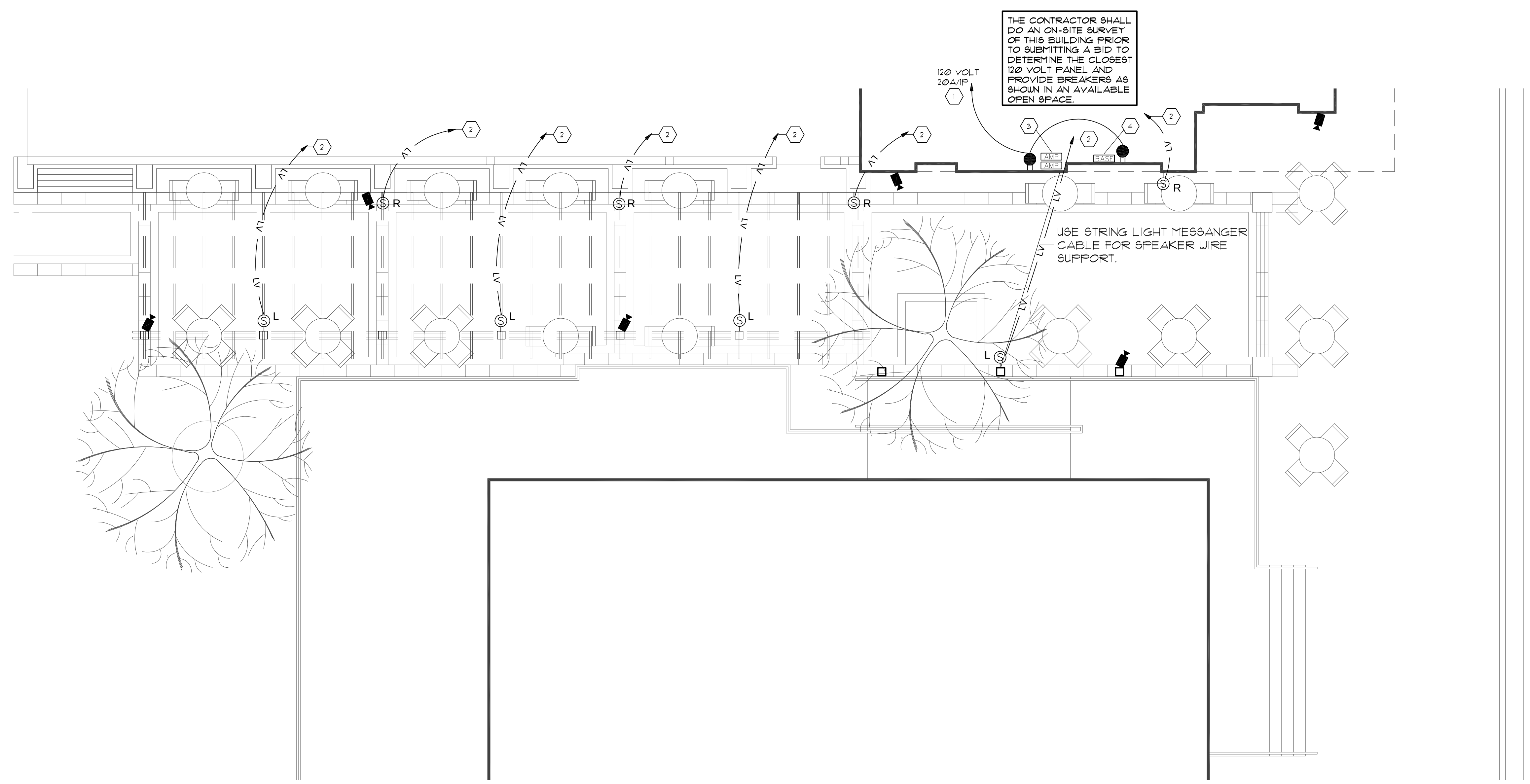


LEGEND NOTES:

- 1 EXTEND AND CONNECT TO THE NEAREST 120 VOLT PANELBOARD.
- 2 EXTEND THROUGH EXTERIOR LIGHTING TIME SWITCH.
- 3 EXTERIOR LIGHTING CONTROL PANEL - GREENGATE LK8 - LITEKEEPER 8. PROGRAM AS DIRECTED BY THE OWNER FOR ON/OFF TIMES FOR EACH CONTACTOR.
- 4 EXTEND 2#12 & 1#12G TO THE NEAREST 120 VOLT CONTINUOUS CIRCUIT AND CONNECT.

GENERAL NOTES:

- 1. PROVIDE IN EACH CONDUIT, NOT OTHERWISE NOTED, TWO #12 AND ONE #12 GROUND. THIS INCLUDES ALL SWITCH LEGS, LIGHTING AND RECEPTACLE CONDUITS.
- 2. A DEDICATED NEUTRAL SHALL BE RUN WITH EACH CIRCUIT WITH A COLOR STRIPE MATCHING THE RESPECTIVE UNGROUNDED CONDUCTOR COLOR. DO NOT COMBINE HOMERUNS. DO NOT USE A WIRE TROUGH ABOVE OR BELOW ANY PANELBOARDS FOR GATHERING AND INSTALLING HOMERUNS.
- 3. "MATERIALS EXPOSED WITHIN PLENUMS ARE REQUIRED TO BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 AS DETERMINED IN ACCORDANCE WITH ASTM E 84 EXCEPT FOR TESTED AND LABELED WIRING, FIRE SPRINKLER PIPING, PNEUMATIC TUBING, AND ELECTRICAL EQUIPMENT." CODE REFERENCE - 2012 IMC SECTION 602.2.1
- 4. AS REQUIRED BY CURRENT NATIONAL ELECTRICAL CODE, PROVIDE IN EACH CONDUIT RUN TO A LIGHT SWITCH A NEUTRAL CONDUCTOR ALONG WITH THE PHASE CONDUCTORS, ALL SWITCH LEGS, AND GROUNDING CONDUCTOR.



1 SITE PLAN - SECURITY/SOUND
SCALE: 3/16" = 1'-0"

NOTE:
DRAWING SCALE FOR THIS SHEET IS 3/16" = 1'-0"

LEGEND NOTES:

- 1 EXTEND AND CONNECT TO THE NEAREST 120 VOLT PANELBOARD.
- 2 EXTEND TO SPEAKER SYSTEM AMPLIFIER AND CONNECT TO THE CHANNEL INDICATED.
- 3 SPEAKER SYSTEM AMPLIFIERS. MOUNT AS DIRECTED BY THE ARCHITECT AND CONNECT SPEAKERS AS INDICATED.
- 4 SECURITY SYSTEM BASE STATION. MOUNT AS DIRECTED BY THE ARCHITECT AND CONNECT CAMERAS AS REQUIRED.

GENERAL NOTES:

- 1. PROVIDE IN EACH CONDUIT, NOT OTHERWISE NOTED, TWO #12 AND ONE #12 GROUND., THIS INCLUDES ALL SWITCH LEGS, LIGHTING AND RECEPTACLE CONDUITS.
- 2. A DEDICATED NEUTRAL SHALL BE RUN WITH EACH CIRCUIT WITH A COLOR STRIPE MATCHING THE RESPECTIVE UNGROUNDED CONDUCTOR COLOR.
- 3. "MATERIALS EXPOSED WITHIN PLENUMS ARE REQUIRED TO BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 AS DETERMINED IN ACCORDANCE WITH ASTM E 84 EXCEPT FOR TESTED AND LABELED WIRING, FIRE SPRINKLER PIPING, PNEUMATIC TUBING, AND ELECTRICAL EQUIPMENT." CODE REFERENCE - 2012 IMC SECTION 602.2.1
- 4. COORDINATE THE EXACT LOCATION OF THE SYSTEMS MATERIAL AND DEVICES WITH THE ARCHITECT PRIOR TO ROUGH-IN. MAKE ANY CHANGES REQUIRED TO MEET THEIR DIRECTION.

REVISIONS	
NUMBER	DATE

CPL PROJECT NUMBER 15429.00		
DATE	DRAWN	CHECKED
02/22/2022	JBL	SWL
SHEET TITLE		
SITE PLAN SECURITY/SOUND		

SHEET NUMBER
E301

DIVISION 16000: ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

- 1.01 SCOPE:
- A. Furnish and install a completely wired and operational electrical system as shown on the drawings and specified herein, including but not limited to these major items.

1. Lighting fixtures as indicated and specified on plans.

2. Conduit, wiring, etc., for all outlets and equipment.

3. Cabling and outlets for security and sound.
- 1.02 CODES, REGULATIONS AND STANDARDS:
- A. The installation shall comply with applicable local and state codes and ordinances, including the regulations of the following:

1. Americans with Disabilities Act

2. Current Applicable Building Code

3. National Electric Code

4. Local building codes and ordiances

B. The following industry standards, specifications are also minimum requirements:

1. The National Electrical Manufacturer's Association Standards (NEMA).

2. The Manufacturer's Recommendation.

3. Underwriter Laboratories Incorporated Standards (UL).

4. American National Standards Institute (ANSI).
- 1.03 PERMITS
- A. Obtain and pay for all required permits and inspection fees.
- 1.04 INSPECTION OF SITE:
- A. Prior to submitting a bid, visit the site of the proposed construction to become thoroughly acquainted with existing utilities, working conditions, etc. Allowance will not be made for non-compliance with this condition after bidding.
- 1.05 CLEAN-UP:
- A. Keep the premises free from accumulation of waste material, or rubbish caused by employees or work under this Division of the specification. At the completion of the work, remove all surplus materials, tools, etc., and leave the premises "broom-clean". Remove all temporary wiring upon project completion.
- 1.06 DRAWINGS:
- A. The drawings indicate the general arrangement and locations of the electrical work. Data presented on the these drawings are as accurate as planning can determine, but field verification of all dimensions, locations, levels, etc., to suit field conditions is required. Review all architectural, structural and mechanical drawings and adjust all work to meet the requirements of conditions shown. The architectural drawings shall take precedence over all other drawings. Discrepancies between different plans, or between drawings and specifications, or regulations and codes governing the installation shall be brought to the attention of the Architect in writing before the date of bid opening. If discrepancies are not reported, bid the greater quantity or better quality, and appropriate adjustments will be made after contract award. Field measure and confirm mounting heights and location of electrical equipment with respect to counters, mechanical equipment, etc. Do not scale distances off the electrical drawings; use actual building dimensions.
- 1.07 CUTTING AND FITTING:
- A. Perform coring, cutting, chopping, fitting, repairing and finishing of the work necessary for the installation of the equipment of this Section. However, no cutting of the work of other trades or of anystructural member shall be done without the consent of the Architect and Landlord. Properly fill seal, fireproof and waterproof all openings, sleeves, and holes in slabs. Furnish and install all required sleeves and inserts.
- 1.08 COORDINATION WITH OTHER TRADES:
- A. Cooperate with other trades so that installation of electrical outlets and equipment will be properly coordinated. Check conduit, fixture, and other equipment locations with the other trades to avoid conflict with the piping, ductwork, steel, piping, beams, or other obstructions.

B. Carefully check the locations of the outlet boxes and determine that they have not been disturbed during the installation of material of other trades.

PART 2 - PRODUCTS AND EXECUTION

- 2.01 MATERIALS:
- A. All material shall be new and of quality as specified on the plans or specifications and must carry the Underwriter's Laboratories approval covering the purpose for which they are used, in addition to meeting all requirements of the current applicable codes and regulations. No substitution to materials specified will be allowed.
- 2.02 CONDUIT:
- A. Use Electrical Metallic Tubing (EMT) for equipment branch circuit feeders and in indoor locations for all exposed work above 10'-0" and above lay-in ceilings. MC cable is allowed to be used in walls and above concealed ceilings. IMC shall be used for all exterior work, equipment branch circuit feeders and interior conduit exposed below 10'-0" AFF.

B. Where the conduit enters outlet boxes, fixtures or cabinets, firmly fasten by double locknuts and bushings. Firmly fasten conduit to the building construction. Run exposed conduits parallel to the building lines, supported by appropriate straps. Support conduits on 5 foot intervals and within 3 feet of any box or fitting.

C. Conduit connectors shall be double locknut type, UL listed and labelled, with set-screw or compression fittings.

D. Conduit sizes shall be as required by code and as indicated or specified herein. Minimum conduit size 1/2".

E. All empty conduit systems shall have 200 lb. test pull cord to facilitate installation of future wire.

F. Conceal conduits and outlets within the building structure.
- 2.03 OUTLET, PULL AND JUNCTION BOXES:
- A. Each switch, light, receptacle or other outlets shall be provided with a code gauge, galvanized steel outlet box. All boxes shall be of the one piece, knockout type, shape and size to match the device being served.

B. Boxes installed for the telephone, television and data systems shall be provided with appropriate coverplates.

C. All surface mounted boxes shall be cast type FS with threaded hubs. No exceptions.
- 2.04 WIRING - CABLE & CONDUCTORS:
- A. Unless otherwise specified, all wiring shall be in concealed conduit with copper conductors. The conductors shall be minimum # 12 AWG with an insulated green ground conductor in each run.

B. All wire installed in nonmetallic sheathed cable (NMC) or conduit shall be Type THHN or XHHW copper. The wires shall be color coded. Unless otherwise required by local ordinances, ground wires shall be green, neutral wires shall be white and phase wires shall be black (Phase A), red (Phase B), and blue (Phase C) for 120/208 volt systems. All conductors shall be #12 AWG, unless otherwise indicated.
- 2.05 WIRING DEVICES:
- A. Receptacles shall be specification grade, duplex type, NEMA 5-20R, 20 ampere, 125 volt grounded type. Outlets shall be Hubbell 5362-** with NYLON coverplates.

B. GFI receptacle shall be Hubbell GF5362.

C. Provide type of faceplates to match devices.

D. Device and coverplate color shall be as directed by the architect.
- 2.06 PANELBOARDS:
- A. Branch circuit panelboards refered to on drawings are existing. Provide new circuit breakers as indicated on the drawings.
- 2.07 GROUNDING:
- A. Provide a grounding conductor in all cable and branch circuits.

B. Provide a grounding lug on all devices, and connect to the branch circuit grounding conductor.
- 2.08 GUARANTEE
- A. Guarantee all material furnished and all workmanship performed for a period of one year from the date of final acceptance of the work. Any defects developing within this period, traceable to material furnished as part of this Section or workmanship performed hereunder, shall be corrected at no expense to the Owner.
- 2.09 EXISTING FACILITIES, DEMOLITION AND ALTERATIONS:
- A. Fully investigate the site and ascertain all existing utilities and conditions which may effect the execution of this work.

PART 3 - SECURITY CAMERA SYSTEM

- 3.01 SYSTEM CRITERIA:
- A. Provide 6 wireless cameras for the monitoring of the entry and public areas. Include a base station, cellular connectivity, power to keep each camera active 24/7, premier level plan for camera management, and a data plan for owner directed distribution and monitoring. Cameras shall be located to best monitor the entire space and be mounted to prevent tampering or unauthorized removal. Provide power for the base station as indicated on the drawings.

B. Approved manufactures for this equipment include Arlo and Ring. Other manufacturers may be supplied only after a complete submittal of the proposed equipment to the engineer prior to bid and approval given in writing.

C. Approved supplier and installer of this system is Icotech Inc. Contact Bryan Hodges at 334.386.9996 for pricing and availability. Other installers may be used only after a complete submittal of the proposed company with references and personnel to the engineer prior to bid and approval given in writing.

PART 4 - BACKGROUND MUSIC SYSTEM

- 4.01 SYSTEM CRITERIA:
- A. Provide a general background music system as indicated on the drawings. Provide all required cabling and mounting for a complete system. Music shall be able to be supplied from a connected source, (Iphone, Ipod, or other source) through the base amplifiers and distributed to the space with the speakers indicated. Input source not included. Speakers shall be located to best cover the entire space and be mounted to prevent tampering or unauthorized removal. Provide power for the base amplifiers as indicated on the drawings.

B. The basis of material quality for this equipment is Bose. See the symbol list for specific part numbers and notes for additional information regarding the installation of this system. Other manufacturers may be supplied only after a complete submittal of the proposed equipment to the engineer prior to bid and approval given in writing.

C. Approved supplier and installer of this system is Icotech Inc. Contact Bryan Hodges at 334.386.9996 for pricing and availability. Other installers may be used only after a complete submittal of the proposed company with references and personnel to the engineer prior to bid and approval given in writing.

SAVANT

Engineering, LLC

5064 Roswell Road, Suite D-301

Sandy Springs GA 30342 770.319.7400

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FARMERS

MARKET ALLEY

PROJECT

FLOWERY BRANCH,

GEORGIA 30542

REGISTERED

NO. PE035083

PROFESSIONAL

2-22-22

ENGINEER

SCOTT W. LINDFELW

REVISIONS		
NUMBER	DATE	

CPL PROJECT NUMBER		
15429.00		
DATE	DRAWN	CHECKED
02/22/2022	IBL	SWL
SHEET TITLE		
ELECTRICAL and SYSTEMS SPECIFICATIONS		

SHEET NUMBER
E401

988



Company Address 1595 Peachtree Parkway
Suite 204-396
Cumming, GA 30041
United States

Created Date 5/25/2022
Prepared By Jonathan Zambrano
Email jonathan@triscapes.com
Phone 770-560-9335

Reference CO_#06_ Antebellum restaurant

Contact Name Rich Edinger
Phone 678.318.1062 (direct)
Email redinger@cplteam.com

Product	Line Item Description	Quantity	UOM	Unit Price	TSI Total Price
Demolition	DEDUCT: Remove existing asphalt to subgrade	-2,605.00	SF	\$2.25	-\$5,861.25
Retaining Wall	DEDUCT: Antebellum Wall #1	-193.00	LF	\$300.00	-\$57,900.00
Site Furnishings	DEDUCT: Tree Grate (1/SD12)	-5.00	EA	\$3,562.50	-\$17,812.50
Striping	DEDUCT: 2 Coats of 4" Wide White Paint. All Traffic Striping per GDOT Specs.	-239.00	LF	\$4.80	-\$1,147.20
Concrete	DEDUCT: 4" Thick, 3,500 psi. Broom Finished Concrete Sidewalk (3/SD11)	-650.00	SF	\$6.28	-\$4,082.00
Concrete	DEDUCT: Concrete Header Curb	-43.00	LF	\$22.04	-\$947.72
Landscape	DEDUCT: Root Barrier	-62.00	LF	\$15.20	-\$942.40
Landscape - Trees	DEDUCT: Quercus Hemisphaerica / Laurel Oak (4" Cal.)	-1.00	EA	\$815.63	-\$815.63
Landscape - Trees	DEDUCT: Scarlet Oak (4" Cal.)	-1.00	EA	\$815.63	-\$815.63
Landscape - Trees	DEDUCT: Shumard Oak (4" Cal.)	-2.00	EA	\$815.63	-\$1,631.26
Landscape - Trees	DEDUCT: Willow Oak (4" Cal.)	-2.00	EA	\$721.88	-\$1,443.76
Landscape - Groundcovers	DEDUCT: blazing star / SUBSTITUTE STELLA DE ORE DAYLILY (1 Gal.)	-126.00	EA	\$9.95	-\$1,253.70
Landscape - Groundcovers	DEDUCT: Purple Coneflower (1 Gal.)	-68.00	EA	\$11.82	-\$803.76
Landscape - Shrubs	ADD-ON: Carolina Rose (3 Gal.)	9.00	EA	\$37.50	\$337.50
Mulch - Shredded Hardwood	ADD-ON: 4" Shredded Aged Hardwood Mulch	11.00	CY	\$114.38	\$1,258.18
Pavers	ADD-ON: Pavestone, Holland Stone Concrete Paver (60MM), Standard Oaks Blend Color, Parkway Finish (or equal)	1,316.00	SF	\$19.50	\$25,662.00
Concrete	ADD-ON: Concrete Banding - Parking/Road. 18" Thick, 4,000 psi w/ 5% Air Entrained Fiber Mesh, Gray Color, Finish Smooth Troweled Finish.	14.00	LF	\$27.38	\$383.32
Miscellaneous Materials	ADD-ON: #4 Rebar (x 4 rows) - Parking/Road	56.00	LF	\$1.88	\$105.28

Total Price -\$67,710.53

Approval

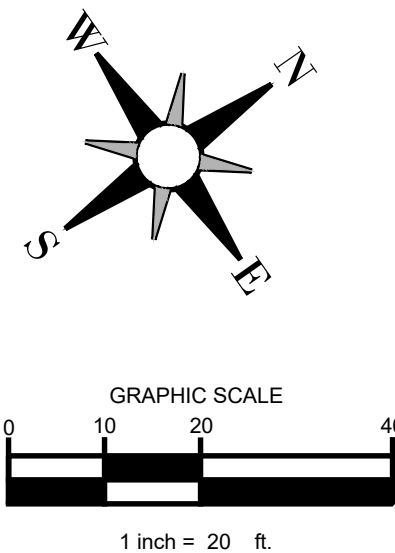
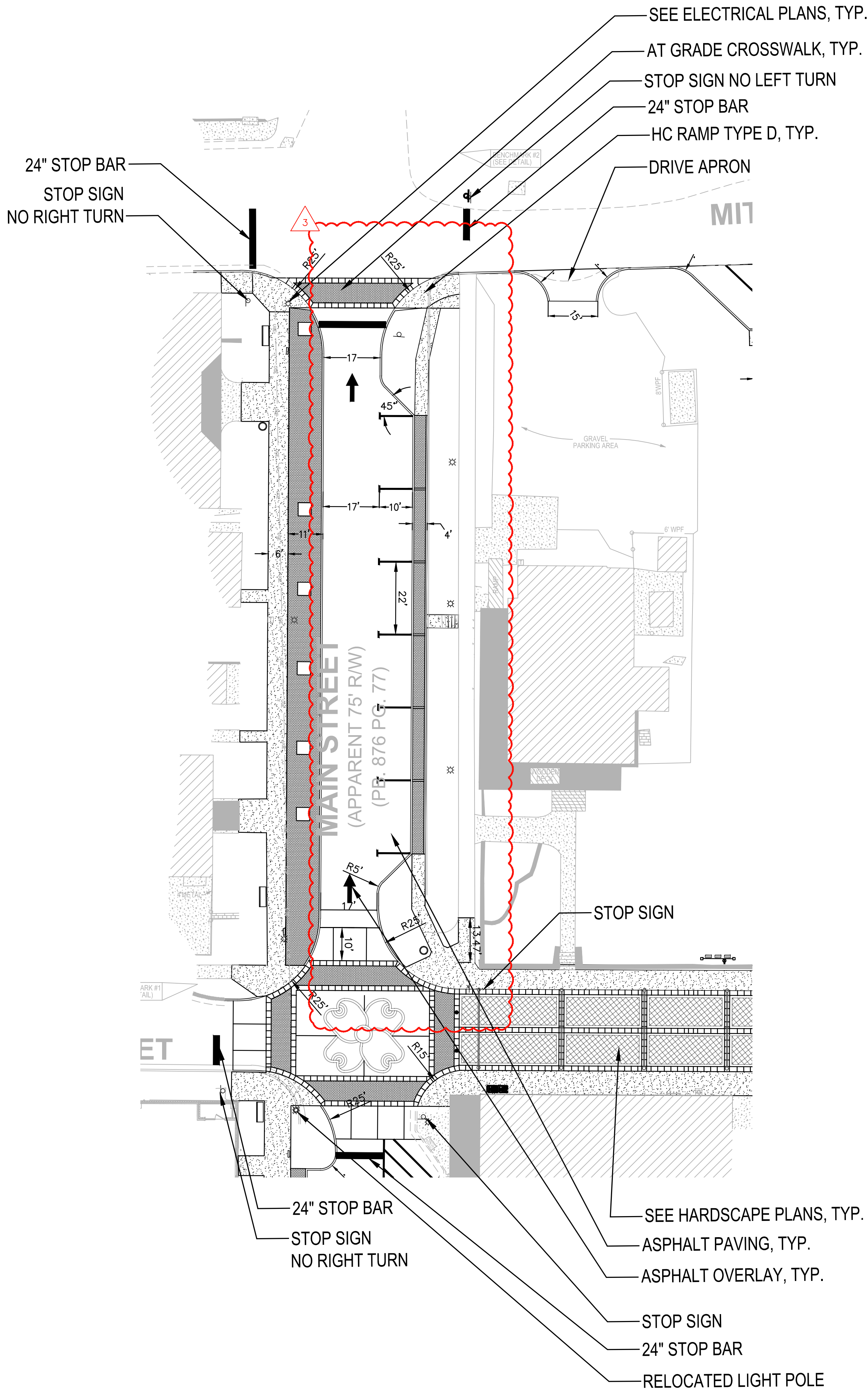
Company/Owner/Representative: _____



Authorized Signature: _____
Date: _____

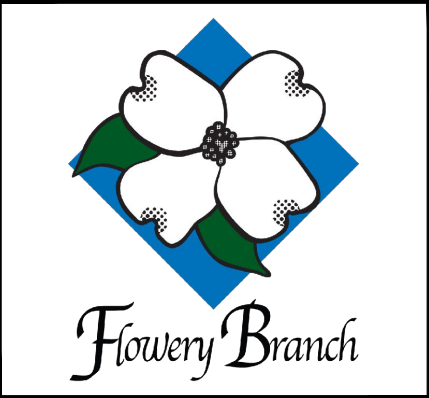
*****NOTE: Prices good for 15 Days*****

Author: meistrunk
Last saved by: meistrunk
Drawing name: S:\Projects\Flowery Branch\Flowery Branch Concept\CAD\Flowery Branch_CD_Sheets.DWG




CPLteam.com
ARCHITECTURE • ENGINEERING • PLANNING
3011 Sutton Gate Drive, Suite 130
Suwanee, GA 30024
TEL (800) 274-9000
FAX (770) 831-9243
www.clarkpatterson.com

REVISIONS	DESCRIPTION		
	NO.	DATE	BY



CITY OF FLOWERY BRANCH
PARKS AND STREETSCAPE
IMPROVEMENTS
LL. 112. 8TH DISTRICT
HALL COUNTY
FLOWERY BRANCH GA 30542

DATE 4/14/22	DRAWN JP	CHECKED LAG
SCALE 1"=20.0'		
SHEET TITLE		
SITE PLAN SKETCH		

PROJECT NUMBER 15429.00
DRAWING NUMBER



7/5/2022

FROM:TO:

PROJECT: Flowery Branch Farmers Market, Stre

CONTRACT # CPL2021-001

Tri Scares, Inc.

Clark Patterson Lee

1595 Peachtree Parkway, Suite 204-396 3011 Sutton Gate Drive, Suite 130 CHANGE ORDER # 8 rev1

Cumming, GA 30041

Suwanee, Georgia 30024

RE:

Unforeseen 15in RCP Bypass

Office: 770-752-4698

678-318-1078

Fax: 770-752-6792

Contact: Jonathan Zambrano

Joseph Powell, PLA, ISA

Email: jonathan@triscares.com

JPowell@CPLteam.com

www.TriScares.com

<i>We hereby agree to make the change(s) specified below:</i>	<u>Unit</u>		<u>Unit</u>	<u>Ext.</u>
<u>15" RCP Bypass</u>	<u>QTY.</u>	<u>UOM</u>	<u>Cost</u>	<u>Amount</u>
Demolish unforeseen 15" RCP	1	LS	\$ 1,200.00	\$ 1,200.00
Install new Junction Box	1	LS	\$ 3,150.00	\$ 3,150.00
New 15" HDPE connect to existing JB A.3	1	LS	\$ 1,800.00	\$ 1,800.00
Core/cut existing JB A.3 for receipt of new 15" pipe	1	LS	\$ 600.00	\$ 600.00
Repave asphalt area removed to make connection to JB in the asphalt	1	LS	\$ 900.00	\$ 900.00
TOTAL AMOUNT OF THIS CHANGE ORDER :	\$			7,650.00

Change Order proposal notes:

Change Order proposal notes:

1) This Change Order becomes part of and in conformance with the existing Contract.

2) NO Addendum(s) are acknowledged.

3) Actual amounts to be quantified by onsite geotechnical representative.

Note: Price good for 30 days

Company/Owner/Representative:Authorized Signature:Date:Company/Owner/Representative:Authorized Signature:Date:



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider a Development Agreement with Makita USA, Inc. for Improvements to the City's Sewer System

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Makita USA, Inc. ("Makita") has proposed a 656,200 square foot development on Falcon Parkway. The City understands that Makita and its engineers have thoroughly pursued multiple options for connecting the development's new sewer service to the City's existing gravity sewer system. These options include:

- 1) Connection to a 12" Gravity Main by installation within or adjacent to an existing Force Main Easement— this option involved extending a new gravity sewer service pipe across Falcon Parkway to the east, through school property (possibly on city easement or adjacent), and connecting to gravity sewer to Martin Rd pump station. This pursuit ended due to the unlikelihood of having the space required to install within the existing easement, obtaining an additional easement from the Board of Education, and concern over the possibility of bedrock along the route.
- 2) Connection to 12" Gravity Main via County Easement at Fire House— this option involved extending the new gravity sewer service pipe across Falcon Parkway to the east, across County property at the Fire House, and connecting to the 12" Gravity Main within city easement to the east of said property.

Given the resistance to these options, the Makita development has proposed a new sewer service connection to the City's sewer system along Falcon Parkway via a "common" force main, which involves the junction of the development's new, private force main directly into the City's existing force main. Though the aforementioned service connection options would generally be more desirable to the City than allowing connection to the force main, the City understands that these pursuits have been met with resistance of various forms and that the proposed common force main connection is a reasonable course of action for the development.

FACTS AND ISSUES:

The proposed Sewer Development Agreement states that the proposed common force main connection is acceptable, and should the City find resolution to permitting and easement issues facing Makita USA's engineering group, including obtaining sewer easement rights and necessary GDOT approval, Makita will be required to construct the Gravity Line Connection option at its own expense (up to an agreed upon cost cap of \$410,575.00) and abandon the common force main connection. The City shall be responsible for any and all Costs in excess of the Cost Cap. The proposed Sewer Development Agreement also states that the City will be held harmless for damages caused by failure of the new check valves built on the private force main.

ATTACHMENTS:

- (1) Sewer Development Agreement by and between Makita USA, Inc and the City of Flowery Branch, Georgia for Access to and Maintenance of the Sanitary Sewer System

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the development agreement with Makita USA, Inc., for improvements to the city's sewer system.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary - Development Agreement with Makita \(final\).pdf](#)
- [Development Agreement \(City-Makita\) - v6 Execution Version.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Development Agreement with Makita USA, Inc. for Improvements to the City's Sewer System.

DATE: July 21, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- No change

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing a Sewer Development Agreement with Makita USA, Inc. allowing Makita USA to access the city sewer system by force main connection and providing provisions for required connection to the city's gravity sewer when and if easements and permits become available. Additionally, the agreement states that Makita USA will hold the city harmless against all damages resulting from failure of the check valves associated with the force main connection.

HISTORY: Makita USA, Inc. ("Makita") has proposed a 656,200 square foot development on Falcon Parkway. The City understands that Makita and its engineers have thoroughly pursued multiple options for connecting the development's new sewer service to the City's existing gravity sewer system. These options include:

- 1) Connection to a 12" Gravity Main by installation within or adjacent to an existing Force Main Easement– this option involved extending a new gravity sewer service pipe across Falcon Parkway to the east, through school property (possibly on city easement or adjacent), and connecting to gravity sewer to Martin Rd pump station. This pursuit ended due to the unlikelihood of having the space required to install within the existing easement, obtaining an additional easement from the Board of Education, and concern over the possibility of bedrock along the route.
- 2) Connection to 12" Gravity Main via County Easement at Fire House– this option involved extending the new gravity sewer service pipe across Falcon Parkway to the east, across County property at the Fire House, and connecting to the 12" Gravity Main within city easement to the east of said property.

Given the resistance to these options, the Makita development has proposed a new sewer service connection to the City's sewer system along Falcon Parkway via a "common" force main, which involves the junction of the development's new, private force main directly into the City's existing force main. Though the aforementioned service connection options would generally be more

desirable to the City than allowing connection to the force main, the City understands that these pursuits have been met with resistance of various forms and that the proposed common force main connection is a reasonable course of action for the development.

FACTS AND ISSUES: The proposed Sewer Development Agreement states that the proposed common force main connection is acceptable, and should the City find resolution to permitting and easement issues facing Makita USA's engineering group, including obtaining sewer easement rights and necessary GDOT approval, Makita will be required to construct the Gravity Line Connection option at its own expense (up to an agreed upon cost cap of \$410,575.00) and abandon the common force main connection. The City shall be responsible for any and all Costs in excess of the Cost Cap. The proposed Sewer Development Agreement also states that the City will be held harmless for damages caused by failure of the new check valves built on the private force main.

ATTACHMENTS:

- (1) Sewer Development Agreement by and between Makita USA, Inc and the City of Flowery Branch, Georgia for Access to and Maintenance of the Sanitary Sewer System
-
-

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the development agreement with Makita USA, Inc., for improvements to the city's sewer system.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

This instrument prepared by
and upon recording return to:

Ellen W. Smith
Parker Poe
1075 Peachtree Street N.E.
Suite 1500
Atlanta, GA 30309
(678) 690-5720

SEWER DEVELOPMENT AGREEMENT

THIS SEWER DEVELOPMENT AGREEMENT (this "Agreement") is made effective as of the ____ day of July, 2022 (the "Effective Date"), by and between MAKITA U.S.A, INC., a California corporation ("Owner"), and THE CITY OF FLOWERY BRANCH, a Georgia municipality (the "City").

RECITALS:

WHEREAS, Owner is the owner of certain real property located at 4200 Falcon Parkway, Flowery Branch, Hall County, Georgia (Parcel Numbers 08070-001002 and 08073-000004A), as more particularly described on **Exhibit A** attached hereto (the "Property");

WHEREAS, Owner is in the process of constructing a building and related improvements on the Property consisting of approximately 656,200 square feet of floor area (with expansion capabilities and a graded pad to support another approximately 192,000 square feet) to be used by Owner as an office and warehouse facility (the "Project");

WHEREAS, in connection with the Project, the City and its engineer reviewed several alternative designs for the Project to connect into the City's public sewer infrastructure located at or near the Property (the "Public Sewer System");

WHEREAS, the City's preferred sewer connection from the Project to the Public Sewer System is via a gravity line connection (the "Gravity Line Connection");

WHEREAS, the Gravity Line Connection requires certain offsite easement rights from properties located near the Property (the "Sewer Easement Rights");

WHEREAS, despite commercially reasonable efforts, Owner and the City have been unable to obtain the Sewer Easement Rights;

WHEREAS, in lieu of the Gravity Line Connection, and as a condition of Owner's entering into this Agreement, the City has approved a sewer connection from Owner's private sewer lines

located on the Property (the “Private Sewer System”) to the Public Sewer System via a force main connection, as depicted on **Exhibit B** attached hereto (the “Force Main Connection”); and

WHEREAS, the City desires that Owner be responsible to install the Gravity Line Connection if and when the Approvals (as defined below) are obtained by the City, subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the foregoing, the mutual covenants hereinafter contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Owner and the City (each a “Party”, or collectively, the “Parties”) agree as follows:

1. **Recitals.** The above stated Recitals are hereby incorporated as if fully stated herein.
2. **Sewer Easement Rights; GDOT Approval.** The City shall have the sole responsibility, at its cost and expense, to obtain (a) the Sewer Easement Rights, and (b) any necessary approvals from the Georgia Department of Transportation, such that the Gravity Line Connection can be lawfully constructed and installed as required by the City (collectively, the “Approvals”). The City shall provide written notice to Owner promptly upon securing the Approvals, which notice shall include fully executed and recorded copies of such documents evidencing the Approvals and written evidence that the City is holding funds budgeted for its reimbursement to Owner of the Excess Costs (as defined below) (collectively, the “Approval Notice”). Unless and until the City secures the Approvals and funds for reimbursement of the Excess Costs and provides the Approval Notice to Owner, Owner shall have no obligation to construct and install the Gravity Line Connection as provided herein, and the Force Main Connection shall remain the approved and usable connection point for the Property to the Public Sewer System.
3. **Gravity Line Connection.** In the event the City obtains the Approvals and provides the Approval Notice as provided in Section 2 hereof, Owner shall construct and install the Gravity Line Connection as a replacement for the Force Main Connection. The Parties shall meet and confer in good faith to finalize the design, schedule, budget, construction, and any other related matters with respect to the Gravity Line Connection within one hundred twenty (120) days after Owner’s receipt of the Approval Notice. Owner shall thereafter construct and install the Gravity Line Connection at its cost and expense, subject to Section 4 hereof. The City shall provide Owner with all necessary permits, consents, approvals, and rights of access necessary for Owner to fulfill its obligations under this Agreement.
4. **Cost Cap.** Owner’s maximum contribution to the costs, assessments, fees and expenses of the construction and installation of the Gravity Line Connection (collectively, the “Costs”) shall be Four Hundred Ten Thousand, Five Hundred Seventy-Five and No/100 Dollars (\$410,575.00) (the “Cost Cap”). The City shall be responsible for any and all Costs in excess of the Cost Cap (the “Excess Costs”), and shall reimburse Owner for the Excess Costs within thirty (30) days after receipt of written notice from Owner after completion of the Gravity Line Connection, which notice shall include reasonable backup evidence (e.g., invoices from contractors) of the Excess Costs.

5. **Hold Harmless Obligation.** As part of the Project, Owner installed certain check valves (the “Check Valves”) within the Private Sewer System, which serve to prevent effluent from the Public Sewer System entering into the Private Sewer System as a result of a failure of the Public Sewer System. Owner has sole maintenance responsibility with respect to the Check Valves and the Private Sewer System. So long as the Force Main Connection remains in use by Owner, Owner hereby agrees to hold harmless the City from and against any and all damages, liabilities, losses, claims, causes of action, costs, and expenses (including reasonable attorney's fees), resulting from a failure of the Check Valves. The hold harmless obligation set forth herein shall be null and void upon Owner’s completion of the Gravity Line Connection.

6. **Notices.** All notices required or permitted to be given hereunder shall be in writing and delivered: (a) in person; (b) by certified or registered first class prepaid U.S. Mail, return receipt requested; (c) prepaid by nationally-recognized overnight courier service such as FedEx; or (d) via email, to the Parties at their respective addresses set forth below, or at such other addresses, notice of which shall previously have been given to the other Party in accordance with this Section. Such notices shall be deemed given when: (i) personally delivered; (ii) deposited in the mail or with such courier service; or (iii) sent to the receiving party via email, as applicable.

City: City of Flowery Branch
5410 West Pine Street
Flowery Branch, Georgia 30542
Attn: Tonya Parrish, City Manager
Email: tonya@flowerybranchga.org

Copy to: Carothers & Mitchell, LLC
1809 Buford Highway
Buford, Georgia 30518
Attn: E. Ronald Bennett, Jr.
Email: ron.bennett@carmitch.com

Owner: Makita U.S.A., Inc.
14930 Northam Street
La Mirada, California 90638
Attn: Joe Blackwell
Email: jblackwell@makitausa.com

Copy to: Parker Poe Adams & Bernstein, LLP
1075 Peachtree Street NE, Suite 1500
Atlanta, Georgia 30309
Attn: Ellen W. Smith
Email: ellensmith@parkerpoe.com

7. **Obligations Run with the Land.** This Agreement shall be recorded in the Official Records of Hall County, Georgia, and the terms, conditions, and obligations set forth herein shall run with the land.

8. **Binding Effect.** This Agreement shall be binding upon, and inure to the benefit of, the Parties and their respective successors, heirs, and assigns.

9. **Amendments.** This Agreement may not be modified or amended except in a written agreement signed by all Parties hereto, and recorded in the Official Records of Hall County, Georgia.

10. **Entire Agreement.** This Agreement contains the entire agreement between the Parties hereto with respect to the subject matter set forth herein and supersedes any and all other agreements, oral or written, with respect to the subject matter of this Agreement.

11. **Severability.** If any provision of this Agreement is or should become wholly or partially invalid or unenforceable for any reason whatsoever or violate any applicable law, this Agreement is to be considered divisible as to such provision and such provision is to be deleted from this Agreement, and the remainder of this Agreement shall be deemed valid and binding as if such provision were not included herein.

12. **Rule of Construction.** No provision of this Agreement shall be construed by any court or other judicial authority against any Party hereto by reason of such Party's being deemed to have drafted or structured such provisions.

13. **Governing Law; Attorneys' Fees.** This Agreement shall be governed by the laws of the State of Georgia, without regard to its conflict of laws principles or rules. In the event of the commencement of any such action, suit or proceeding, the Party prevailing in such matter shall be entitled to collect from the non-prevailing Party the costs incurred by the prevailing Party in such matter, including, without limitation, reasonable attorneys' fees actually incurred without limitation by O.C.G.A. 13-1-11.

14. **Waiver.** The failure of any Party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of any right thereunder, nor shall it deprive that Party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement, and any waiver must be made in writing.

15. **Counterparts.** This Agreement may be executed in one or more counterparts by any Party hereto and by all Party hereto in separate counterparts, each of which, when so executed and delivered to the other Parties, shall be deemed an original. All such counterparts together shall constitute one and the same instrument.

16. **Time is of the Essence.** Time is of the essence for all matters set forth in this Agreement.

17. **Exhibits.** All Exhibits attached hereto are incorporated herein by reference.

[Remainder of page intentionally left blank; signature page follows.]

IN WITNESS WHEREOF, Owner and the City have executed and delivered this Agreement under seal to be effective as of the Effective Date.

Signed, sealed and delivered
in the presence of:

OWNER:
MAKITA U.S.A., INC., a California
corporation

Unofficial Witness

Print

Name: _____

By: _____

Name:

Title:

A notary public or other officer completing this
certificate verifies only the identity of the individual
who signed the document to which this certificate
is attached, and not the truthfulness, accuracy, or
validity of that document.

Attest: _____

Name:

Title:

STATE OF CALIFORNIA

COUNTY OF _____

Subscribed to and sworn to (or affirmed)
before me on this _____ day of
_____, 2022 by

[CORPORATE SEAL]

_____,
proved to me on the basis of satisfactory
evidence to be the person(s) who appeared
before me.

Signature _____
Notary Public

(SEAL)

Signed sealed and delivered in the presence of:

Witness

Notary Public

My Commission Expires:_____

(NOTARIAL SEAL)

CITY:
THE CITY OF FLOWERY BRANCH, a
political subdivision of the State of Georgia

By:_____

Name:_____

Title:_____

Attested to by:

By:_____

Name:_____

Title:_____

EXHIBIT A

Legal Description of the Property

All that tract or parcel of land lying and being in Land Lots 72 and 73 of the 8th Land District, City of Flowery Branch, Hall County, Georgia, said tract or parcel of land being more fully shown and designated on a plat of survey prepared by Valentino & Associates, Inc. (Job #19-017; Drawing/File #19-017), bearing the seal of Glenn A. Valentino, Ga. Registered Land Surveyor #2528, and being more particularly described, with bearings relative to Grid North, Georgia West Zone, as follows:

TO FIND THE POINT OF BEGINNING, COMMENCE at a 2" open top pipe found at the common corner of Land Lots 69, 70, 72 and 73;

THENCE South 58 degrees 29 minutes 26 seconds West for a distance of 379.22 feet to a computed point on the northeasterly right-of-way line of Martin Road Extension (public r/w varies);

THENCE South 58 degrees 29 minutes 26 seconds West for a distance of 10.76 feet to a computed point;

THENCE South 57 degrees 52 minutes 05 seconds West for a distance of 237.10 feet to a computed point;

THENCE South 57 degrees 39 minutes 45 seconds West for a distance of 56.93 feet to a concrete r/w monument found on the northwesterly right-of-way line of aforesaid Martin Road Extension, said concrete r/w monument found being the POINT OF BEGINNING.

THENCE proceeding along said northwesterly right-of-way line of Martin Road Extension South 25 degrees 59 minutes 24 seconds West for a distance of 183.15 feet to a concrete r/w monument found;

THENCE South 17 degrees 16 minutes 53 seconds East for a distance of 385.63 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying South 48 degrees 07 minutes 50 seconds West for a distance of 1.28 feet;

THENCE North 69 degrees 59 minutes 42 seconds East for a distance of 169.78 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 980.00 feet for an arc distance of 403.54 feet (said arc being subtended by a chord of South 31 degrees 53 minutes 00 seconds East for a distance of 400.69 feet) to a concrete r/w monument found;

THENCE South 45 degrees 23 minutes 40 seconds West for a distance of 10.31 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 990.00 feet for an arc distance of 273.34 feet (said arc being subtended by a chord of South 51 degrees 35 minutes 04 seconds East for a distance of 272.47 feet) to a 1/2" iron pin set at the intersection of the northwesterly right-of-way line of Falcon Parkway (S.R. #13, public r/w varies);

THENCE proceeding southwesterly along the northwesterly right-of-way line of said Falcon Parkway South 34 degrees 16 minutes 08 seconds West for a distance of 414.72 feet to a 1/2" iron pin set;

THENCE South 36 degrees 09 minutes 50 seconds East for a distance of 4.53 feet to a concrete r/w monument found;

THENCE South 53 degrees 43 minutes 37 seconds West for a distance of 220.91 feet to a concrete r/w monument found;

THENCE North 36 degrees 45 minutes 34 seconds West for a distance of 30.22 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying North 53 degrees 26 minutes 43 seconds East for a distance of 0.94 feet;

THENCE South 53 degrees 42 minutes 30 seconds West for a distance of 122.61 feet to a concrete r/w monument found;

THENCE South 36 degrees 04 minutes 05 seconds East for a distance of 39.60 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 2371.83 feet for an arc distance of 317.93 feet (said arc being subtended by a chord of South 49 degrees 47 minutes 30 seconds West for a distance of 317.70 feet) to a concrete r/w monument found;

THENCE South 43 degrees 27 minutes 31 seconds East for a distance of 9.66 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying North 75 degrees 41 minutes 17 seconds West for a distance of 1.18 feet;

THENCE along a curve to the left having a radius of 2361.83 feet for an arc distance of 53.71 feet (said arc being subtended by a chord of South 45 degrees 48 minutes 48 seconds West for a distance of 53.71 feet) to a concrete r/w monument found;

THENCE South 44 degrees 14 minutes 21 seconds West for a distance of 47.94 feet to a concrete r/w monument found;

THENCE South 46 degrees 14 minutes 35 seconds East for a distance of 10.07 feet to a concrete r/w monument found;

THENCE South 44 degrees 50 minutes 12 seconds West for a distance of 300.18 feet to a concrete r/w monument found;

THENCE South 45 degrees 52 minutes 07 seconds East for a distance of 22.05 feet to a concrete r/w monument found;

THENCE South 45 degrees 52 minutes 07 seconds East for a distance of 8.05 feet to a 1/2" iron pin set;

THENCE South 44 degrees 27 minutes 07 seconds West for a distance of 593.67 feet to a 1/2" iron pin set;

THENCE along a curve to the right having a radius of 1010.00 feet for an arc distance of 127.19 feet (said arc being subtended by a chord of South 48 degrees 03 minutes 34 seconds West for a distance of 127.11 feet) to a computed point;

THENCE along a curve to the right having a radius of 1010.00 feet for an arc distance of 58.86 feet (said arc being subtended by a chord of South 53 degrees 20 minutes 12 seconds West for a distance of 58.85 feet) to a 1/2" rebar found;

THENCE departing said right-of-way line of Falcon Parkway North 29 degrees 20 minutes 33 seconds West for a distance of 1731.16 feet to a 1/2" iron pin found on the southeasterly right-of-way line of Interstate 985 (S.R. #365, limited access public r/w varies);

THENCE proceeding northeasterly along said right-of-way line of Interstate 985 North 41 degrees 54 minutes 20 seconds East for a distance of 179.39 feet to a 1/2" rebar found;

THENCE North 41 degrees 41 minutes 23 seconds East for a distance of 25.59 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 11457.89 feet for an arc distance of 704.56 feet (said arc being subtended by a chord of North 39 degrees 51 minutes 03 seconds East for a distance of 704.45 feet) to a concrete r/w monument found;

THENCE along a curve to the right having a radius of 1343.34 feet for an arc distance of 120.12 feet (said arc being subtended by a chord of North 47 degrees 23 minutes 55 seconds East for a distance of 120.08 feet) to a concrete r/w monument found;

THENCE North 63 degrees 01 minutes 14 seconds East for a distance of 48.74 feet to a concrete r/w monument found;

THENCE along a curve to the right having a radius of 1333.34 feet for an arc distance of 147.21 feet (said arc being subtended by a chord of North 55 degrees 07 minutes 04 seconds East for a distance of 147.14 feet) to a concrete r/w monument found;

THENCE North 58 degrees 21 minutes 06 seconds East for a distance of 475.88 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 1260.00 feet for an arc distance of 23.71 feet (said arc being subtended by a chord of North 57 degrees 55 minutes 10 seconds East for a distance of 23.71 feet) to a concrete r/w monument found;

THENCE South 31 degrees 26 minutes 06 seconds East for a distance of 11.47 feet to a concrete r/w

Exhibit A

monument found;

THENCE along a curve to the left having a radius of 1271.36 feet for an arc distance of 210.45 feet (said arc being subtended by a chord of North 52 degrees 28 minutes 33 seconds East for a distance of 210.21 feet) to a concrete r/w monument found;

THENCE North 42 degrees 11 minutes 16 seconds West for a distance of 20.84 feet to a concrete r/w monument found;

THENCE along a curve to the left having a radius of 1250.00 feet for an arc distance of 206.17 feet (said arc being subtended by a chord of North 43 degrees 01 minutes 34 seconds East for a distance of 205.93 feet) to a concrete r/w monument found;

THENCE North 38 degrees 08 minutes 44 seconds East for a distance of 36.35 feet to a concrete r/w monument found;

THENCE North 87 degrees 26 minutes 37 seconds East for a distance of 71.20 feet to a concrete r/w monument found at the intersection with the southwesterly right-of-way line of aforesaid Martin Road Extension;

THENCE proceeding along said right-of-way line of Martin Road Extension along a curve to the right having a radius of 870.00 feet for an arc distance of 313.68 feet (said arc being subtended by a chord of South 33 degrees 46 minutes 11 seconds East for a distance of 311.99 feet) to a concrete r/w monument found;

THENCE South 26 degrees 03 minutes 38 seconds West for a distance of 101.79 feet to a concrete r/w monument found, said concrete r/w monument found being the POINT OF BEGINNING.

Said tract or parcel of land contains 80.773 acres or 3,518,491 square feet.

LESS AND EXCEPT THAT CERTAIN 0.192 ACRES (8,346) SQUARE FEET DEDICATED TO GDOT:

All that tract or parcel of land lying and being in Land Lot 72 of the 8th Land District, City of Flowery Branch, Hall County, Georgia, said tract or parcel of land being more fully shown and designated on a plat of survey prepared by Valentino & Associates, Inc. (Job #19-017; Drawing/File #19-017-LC), bearing the seal of Glenn A. Valentino, Ga. Registered Land Surveyor #2528, and being more particularly described, with bearings relative to Grid North, Georgia West Zone, as follows:

TO FIND THE POINT OF BEGINNING, COMMENCE at a 1/2" iron pin set at the intersection of the northeasterly right-of-way line of Martin Road Extension (public r/w varies per Georgia Department of Transportation project number NHS00-0000-00(425)) and the northwesterly right-of-way line of Falcon Parkway (S.R. #13, public r/w varies per Georgia Department of Transportation project number NHS00-0000-00(425)); THENCE proceeding southwesterly along the existing northwesterly right-of-way line of said Falcon Parkway the following courses and distances, South 34 degrees 16 minutes 08 seconds West for a distance of 414.72 feet to a 1/2" iron pin set; THENCE South 36 degrees 09 minutes 50 seconds East for a distance of 4.53 feet to a concrete r/w monument found; THENCE South 53 degrees 43 minutes 37 seconds West for a distance of 220.91 feet to a concrete r/w monument found; THENCE North 36 degrees 45 minutes 34 seconds West for a distance of 30.22 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying North 53 degrees 26 minutes 43 seconds East for a distance of 0.94 feet; THENCE South 53 degrees 42 minutes 30 seconds West for a distance of 122.61 feet to a concrete r/w monument found; THENCE South 36 degrees 04 minutes 05 seconds East for a distance of 39.60 feet to a concrete r/w monument found; THENCE along a curve to the left having a radius of 2371.83 feet for an arc distance of 317.93 feet (said arc being subtended by a chord of South 49 degrees 47 minutes 30 seconds West for a distance of 317.70 feet) to a concrete r/w monument found; THENCE South 43 degrees 27 minutes 31 seconds East for a distance of 9.66 feet to a computed point, said computed point being witnessed by a concrete r/w monument found lying North 75 degrees 41 minutes 17 seconds West for a distance of 1.18 feet; THENCE along a curve to the left having a radius of 2361.83 feet for an arc

distance of 53.71 feet (said arc being subtended by a chord of South 45 degrees 48 minutes 48 seconds West for a distance of 53.71 feet) to a concrete r/w monument found; THENCE South 44 degrees 14 minutes 21 seconds West for a distance of 47.94 feet to a concrete r/w monument found; THENCE South 46 degrees 14 minutes 35 seconds East for a distance of 10.07 feet to a concrete r/w monument found; THENCE South 44 degrees 50 minutes 12 seconds West for a distance of 300.18 feet to a concrete r/w monument found; THENCE South 45 degrees 52 minutes 07 seconds East for a distance of 16.19 feet to a 1/2" iron pin set, said 1/2" iron pin set being the POINT OF BEGINNING. THENCE continuing along said existing northwesterly right-of-way line of Falcon Parkway the following courses and distances, South 45 degrees 52 minutes 07 seconds East for a distance of 5.87 feet to a concrete r/w monument found; THENCE South 45 degrees 52 minutes 07 seconds East for a distance of 8.05 feet to a 1/2" iron pin set; THENCE South 44 degrees 27 minutes 07 seconds West for a distance of 593.67 feet to a 1/2" iron pin set; THENCE along a curve to the right having a radius of 1010.00 feet for an arc distance of 127.19 feet (said arc being subtended by a chord of South 48 degrees 03 minutes 34 seconds West for a distance of 127.11 feet) to a 1/2" iron pin set; THENCE departing said existing northwesterly right-of-way line of Falcon Parkway and along the proposed northwesterly right-of-way line of said Falcon Parkway the following courses and distances, North 38 degrees 19 minutes 58 seconds West a distance of 4.87 feet to a 1/2" iron pin set; THENCE along a curve to the left having a radius of 1050.75 feet for an arc length of 109.90 feet, being subtended by a chord of North 47 degrees 27 minutes 18 seconds East for a distance of 109.85 feet to a 1/2" iron pin set; THENCE North 44 degrees 27 minutes 31 seconds East a distance of 249.85 feet to a 1/2" iron pin set; THENCE along a curve to the left having a radius of 28.15 feet for an arc length of 24.49 feet, being subtended by a chord of North 19 degrees 31 minutes 57 seconds East for a distance of 23.73 feet to a 1/2" iron pin set; THENCE North 44 degrees 27 minutes 31 seconds East a distance of 301.94 feet to a 1/2" iron pin set; THENCE North 49 degrees 14 minutes 30 seconds East a distance of 36.96 feet to a 1/2" iron pin set on said existing northwesterly right-of-way line of Falcon Parkway, said 1/2" iron pin set being the POINT OF BEGINNING.

EXHIBIT B
Force Main Connection

[See attached.]

HALL COUNTY

SITE DATA

CURRENT ZONING USE: A (AGRICULTURAL),
PROPOSED ZONING USE: M-1 (LIGHT
INDUSTRIAL)

TOTAL SITE ACREAGE: 80.58
PERMITTED DISTURBED AREA: 51.6 AC
REVISED DISTURBED AREA: 51.6 AC
ADD'L DIST. AREA FOR SEWER: 0.0 AC
OPEN SPACE: 48.81 AC (60%)

HALL COUNTY, GA
LAND LOT 72; 8TH DISTRICT
PARCEL #: 08070-001002 &
08073-000004A

FRONT: 25 ft.
SIDE: 25 ft.
BACK: 25 ft.

BUILDING SQUARE FOOTAGE: 611,200 sq. ft.

OFFICE: 43,000 sq. ft.

BUILDING HEIGHT: 50 ft.

PARKING DATA

MINIMUM PARKING REQUIRED
= ONE SPACE PER 2,000 SF
= 656,200 SF / 2,000 SF = 328.1

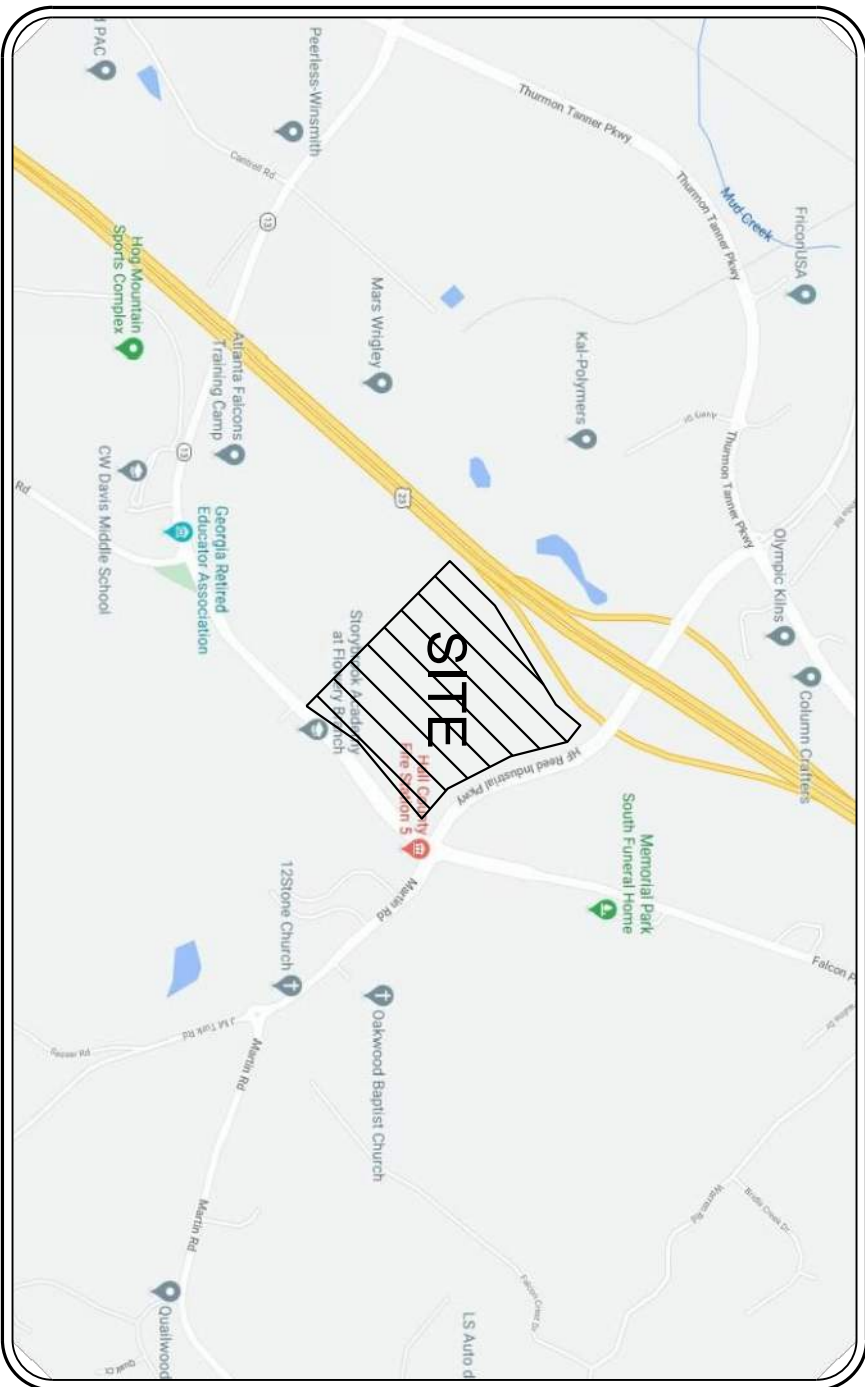
MAXIMUM PARKING APPROVED
= ONE SPACE PER 1,500 SF
= 656,200 SF / 1,500 SF = 437.5

PARKING PROVIDED:
268 TOTAL SPACES
131 FUTURE PARKING SPACES
8 HANDICAP SPACES
ALL ADA SPACES ARE VAN
COMPATIBLE

UTILITY PROVIDERS:

WATER: CITY OF GAINESVILLE
SEWER: CITY OF FLOWERY BRANCH

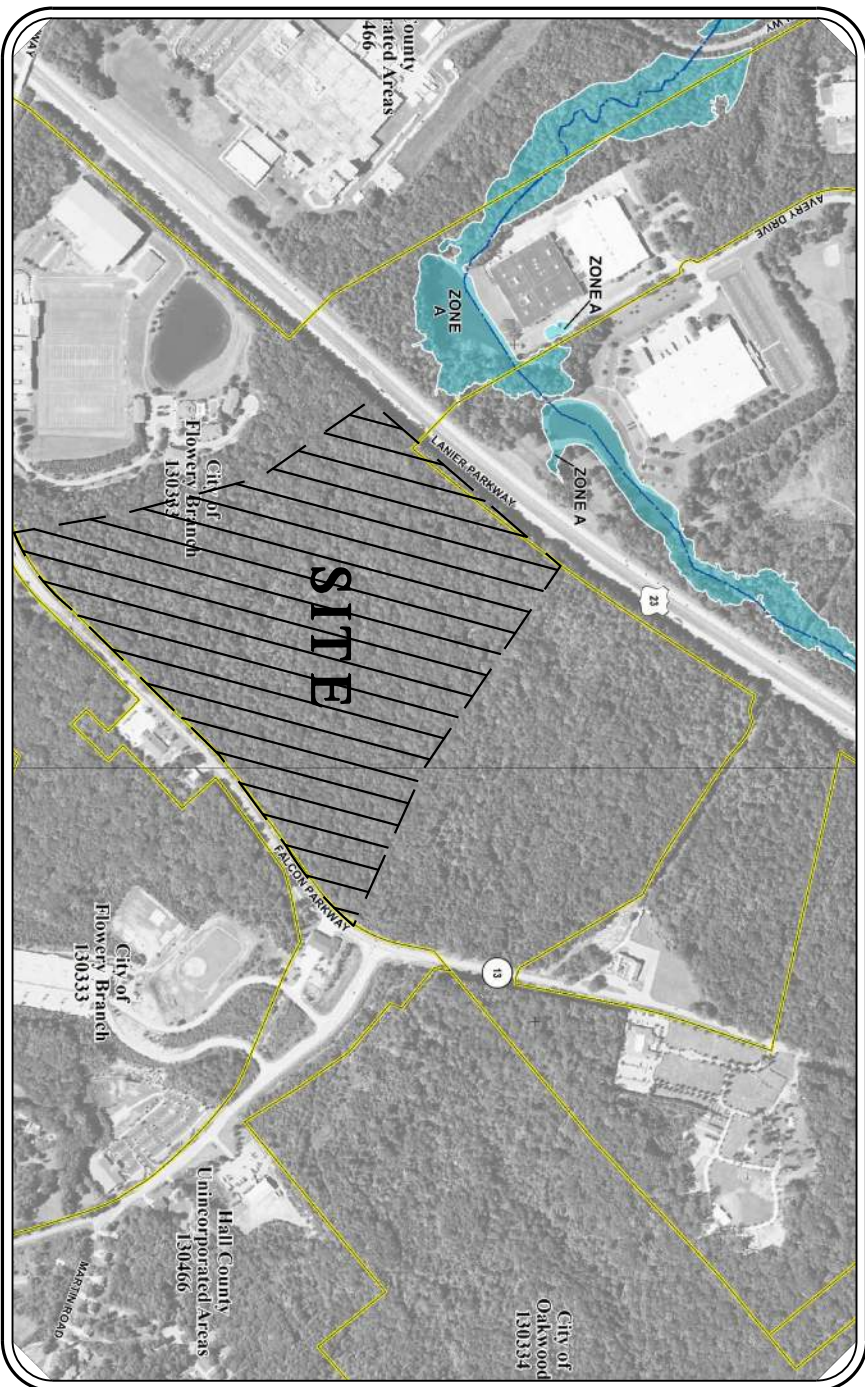
LOCATION MAP



N.T.S.

GPS LOCATION OF SITE: 34.1925° N, -83.8936° W

FEMA MAP



N.T.S.

NO PORTION OF THIS PROPERTY LIES IN THE FLOOD HAZARD ZONE AE AS PER THE HALL COUNTY F.I.R.M. NO. 13139C0284G DATED APRIL 4TH, 2018.

SHEET INDEX

SHEET NO.	SHEET TITLE
C0.0	COVER SHEET & GENERAL NOTES
1-3	EXISTING SITE SUREY
C1.0	OVERALL LAYOUT & STAKING PLANS
C2.0	SEWER UTILITY EXTENSION DETAIL PLANS
C3.0	SEWER UTILITY EXTENSION PROFILE
C4.0	SEWER CONSTRUCTION DETAILS
PS-102	PUMP STATION SECTION & DETAILS

TEL 770.452.7849 FAX 770.452.0086
2951 FLOWERS ROAD SOUTH, STE 119
ATLANTA, GEORGIA 30341
WWW.EBERLY.NET

LAND PLANNING
▼
CIVIL ENGINEERING
▼
LANDSCAPE ARCHITECTURE



PROJECT:

PROJECT FALCON

LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA
4200 FALCON PARKWAY

REVISIONS:

05/17/12	FORKMAN TAP REV	06/28/12	OFFICE CANOPY COORD	7/23/12	VARD HYDRANT RPT #6	7/23/12	ROOF DRAIN MAINTENANCE	08/30/12	NO PIPE MATERIAL CHANGED	09/13/12	TRAINING AREA COMBINATION	11/11/12	SITE PERIMETER FENCE REVISION	11/11/12	AIRDOR TO NOT FRONT CAMPUS	12/17/12	O.P.E.T.A. & OFFICE COORD	12/21/12	OFF-SITE SEWER REVISION	01/26/12	OFF-SITE SEWER REVISION	01/31/12	OFF-TA, CIVIL AND LA REVISION	02/23/12	C.S. & FENCE EXHIBIT REDRAWN	03/04/12	OFF-TA, CIVIL & LA REVISION	03/15/12	OFF-SITE SEWER REVISION	03/18/12	CAMPUS GATE & FENCE REVISION	03/24/12	SEWER LIFT AMENDMENT/DRAWING	06/20/12	LANNAMORE SLOPE REVISION
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COVER SHEET & GENERAL NOTES

COVER SHEET & GENERAL NOTES	
SCALE:	*
DATE:	10/16/20
DRAWN BY:	GS
PROJECT MANAGER:	WILLIAM GREER, P.E.
SCALE CHECK:	MR & BR

ON

19-036

SHEET NO

CO.0

GEORGIA
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THE MCCRARY FAMILY PARTNERSHIP, L.P., A GEORGIA LIMITED PARTNERSHIP, JANE WOOD BANKS AND THE FIRST NATIONAL BANK OF GAINESVILLE, AS TRUSTEES UNDER ITEM FOUR OF THE LAST WILL AND TESTAMENT OF RAFAEL BANKS, JR.; BURWELL INVESTMENTS, LTD., AN ALABAMA LIMITED PARTNERSHIP, MRS. LELIA BANKS BURWELL, SCANNELL PROPERTIES, LLC, AN INDIANA LIMITED LIABILITY COMPANY AND FIRST AMERICAN TITLE INSURANCE COMPANY
LAND LOTS 72 & 73 8TH DISTRICT GMD 1270 & 1605 CITY OF FLOWERY BRANCH, HALL COUNTY, GEORGIA

LAND LOTS 72 & 73 8TH DISTRICT GMD 1270 & 1605 CITY OF FLOWERY BRANCH, HALL COUNTY, GEORGIA



**4045 ORCHARD ROAD
BUILDING 200
SMYRNA, GEORGIA 30080
PHONE: (770) 438-0015
FAX: (770) 435-6050
WEB: VALENTINOSURVEY.COM
STATE OF GEORGIA LAND
SURVEYING FIRM LICENSE
NO. LSE000794**

REVISIONS

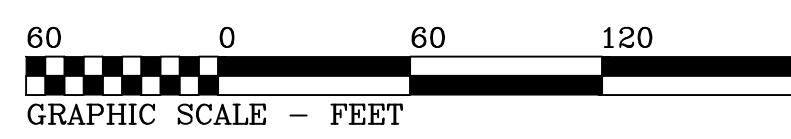
4/29/19: ADDED AERIAL TOPOGRAPHY.
5/08/19: REVISED BOUNDARY LINES TO REFLECT NEW CORNER PINS FOUND.

Professional Engineer Seal for Georgia, Registered Professional Engineer, No. 2528, Glenn A. Valentino.

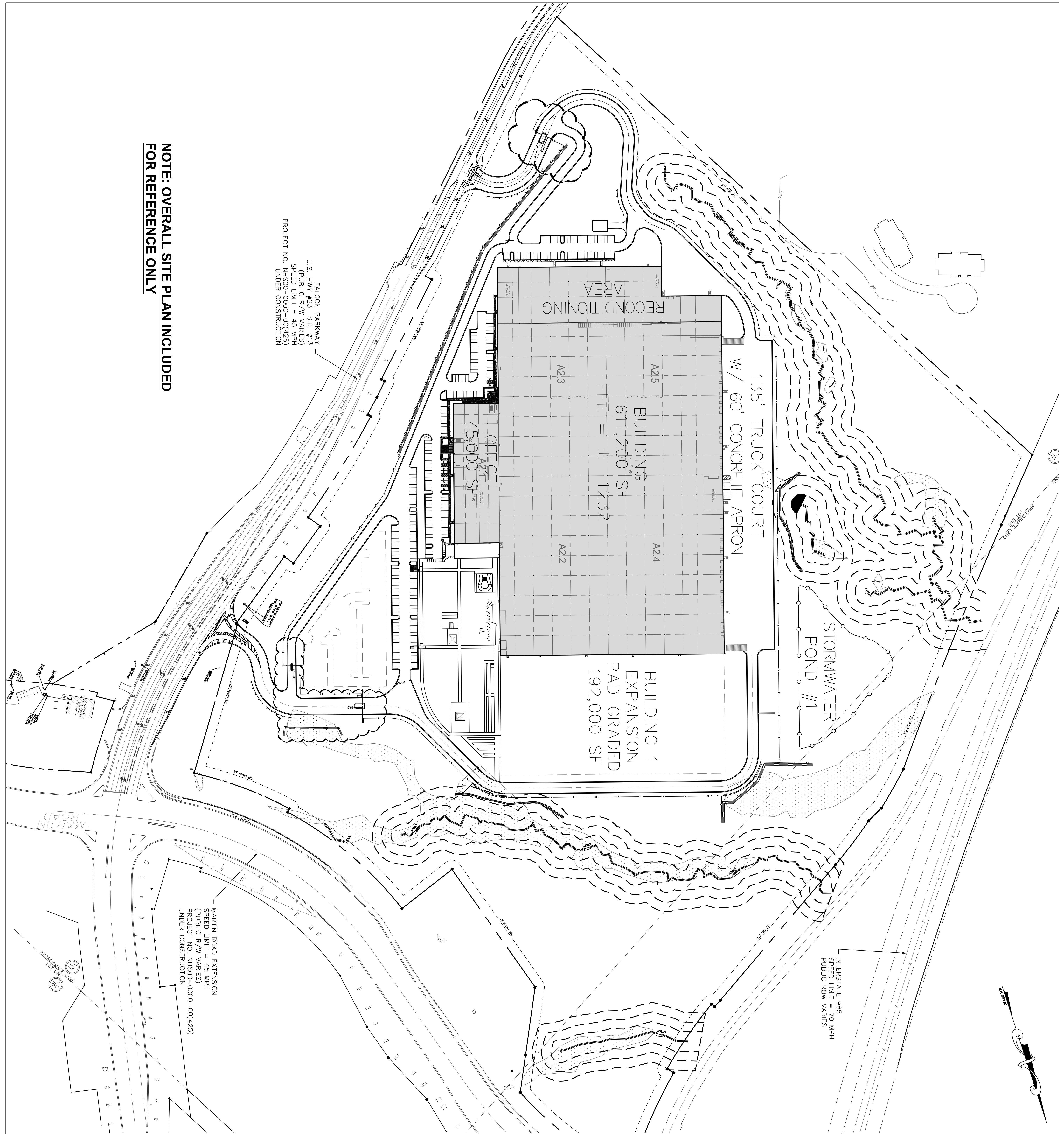
SCALE:	1" = 60'
DATE:	4/26/2019
JOB NUMBER:	19-017
FILE NUMBER:	19-017
PLOTTED:	5/08/2019

ALTA/NSPS
LAND TITLE
SURVEY

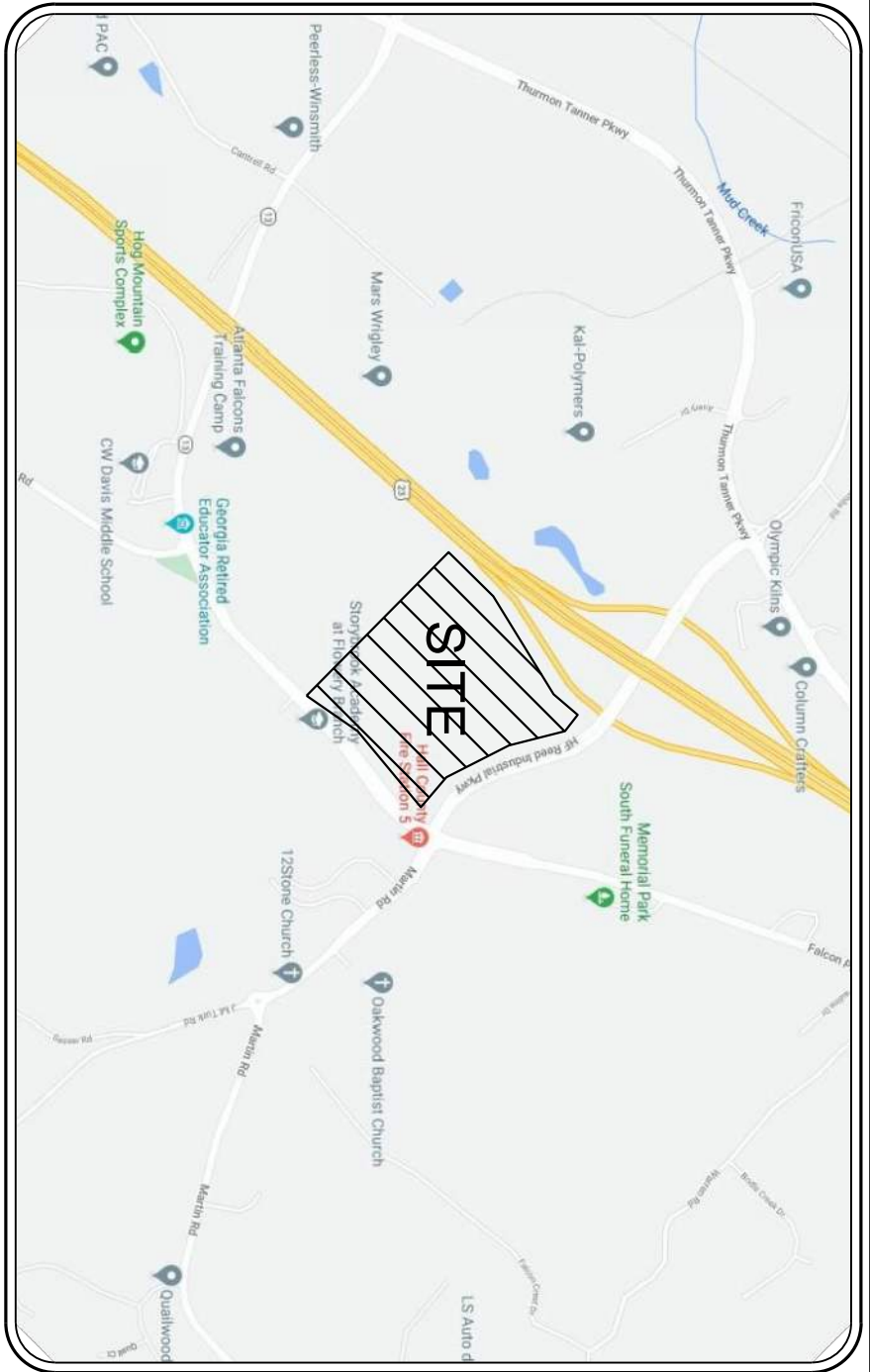
SHEET
2 OF 3



FOR ALL NOTES, SEE SHEET 1 OF 3.



NOTE: OVERALL SITE PLAN INCLUDED
FOR REFERENCE ONLY



LOCATION MAP

N.T.S.

NOTES

- USE ARCHITECTURAL PLANS FOR BUILDING STAKE OUT.
- ALL DIMENSIONS SHOWN ARE FROM FACE OF BUILDING, CURB, OR WALL, UNLESS OTHERWISE NOTED.
- GOVT STATE ROUTE IMPROVEMENTS SET TO INCLUDE PAVING, GRADING, STRIPING, RIGHT-OF-WAY, TO BE APPROVED BY THE STATE DEPARTMENT OF TRANSPORTATION. WORK WITHIN THE RIGHT-OF-WAY OF GOVT STATE ROUTE IMPROVEMENTS SHALL BE APPROVED BY THE GOVT BRANCH BUILDING DEPARTMENT.
- ALL PROPOSED SETBACK WALLS SHOWN ON THE AXONOMETRIC STAKING PLAN SHEETS MUST OBTAIN A SEPARATE PERMIT PRIOR TO INSTALLATION & CONSTRUCTION FROM THE COUNTY BRANCH BUILDING DEPARTMENT.

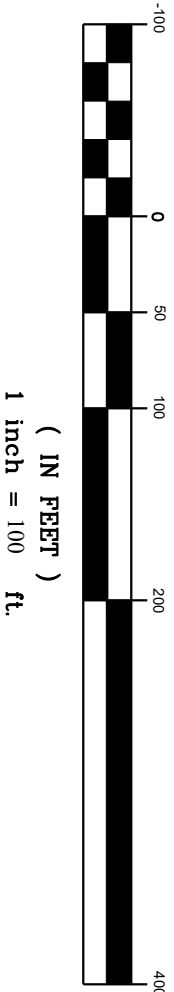
LINE TYPE LEGEND

PROPOSED SITE PERIMETER FENCE
PROPOSED DECORATIVE FENCE OR
FALL PROTECTION
PROPOSED GUARDRAIL

OWNER/DEVELOPER

IAN MACDONALD
5949 SHERY LANE
SUITE #1550
DALLAS, TX 75225
317-843-5959
IANM@CANNELLPROPERTIES.COM
ENGINEER
WILLIAM GREER, P.E.
EBERLY & ASSOCIATES, INC.
2951 FLOWERS ROAD SOUTH
SUITE 119
ATLANTA, GEORGIA 30341
(770) 452-7849
WR@EBERLY.NET
24 HOUR CONTACT
MIKE DIVOND
770-344-7633
MDIVOND@EVAWS-GC.COM

GRAPHIC SCALE



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PROJECT:

PROJECT FALCON

LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA
4200 FALCON PARKWAY

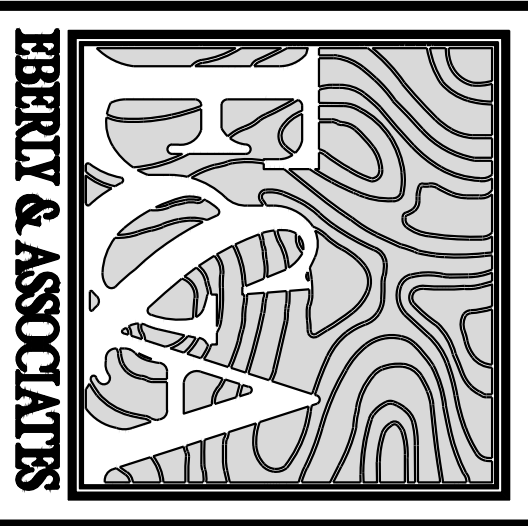


LANDSCAPE ARCHITECTURE

CIVIL ENGINEERING

LAND PLANNING

TEL 770.452.7849 FAX 770.452.0066
2951 FLOWERS ROAD SOUTH, STE 119
ATLANTA, GEORGIA 30341
WWW.EBERLY.NET



REVISIONS:

7/22/21	OFFICE CANOPY CORRO.
7/23/21	YARD HYDRANT BRT #6
08/20/21	REOF BRUN WATERSHED #2
09/13/21	RD TYPE MATERIAL CHANGE
10/14/21	TRAINING AREA CORROSION
11/11/21	SITE PERIMETER FENCE REV
12/17/21	ADDED RD TO FRONT CANOPY
12/21/21	0.25 FT. & OFFICE CORRO.
01/26/22	OFF-SITE SEWER REVISION
01/26/22	0.25 FT. & OFFICE CORRO.
02/04/22	0.25 FT. & OFFICE CORRO.
02/16/22	0.25 FT. & OFFICE CORRO.
03/18/22	0.25 FT. & OFFICE CORRO.
03/24/22	SEWER LOP AMENDMENT
03/29/22	LANEWORK SLOPE REV.
04/28/22	FORCMAIN TAP REV.
05/17/22	FORCMAIN TAP REV.

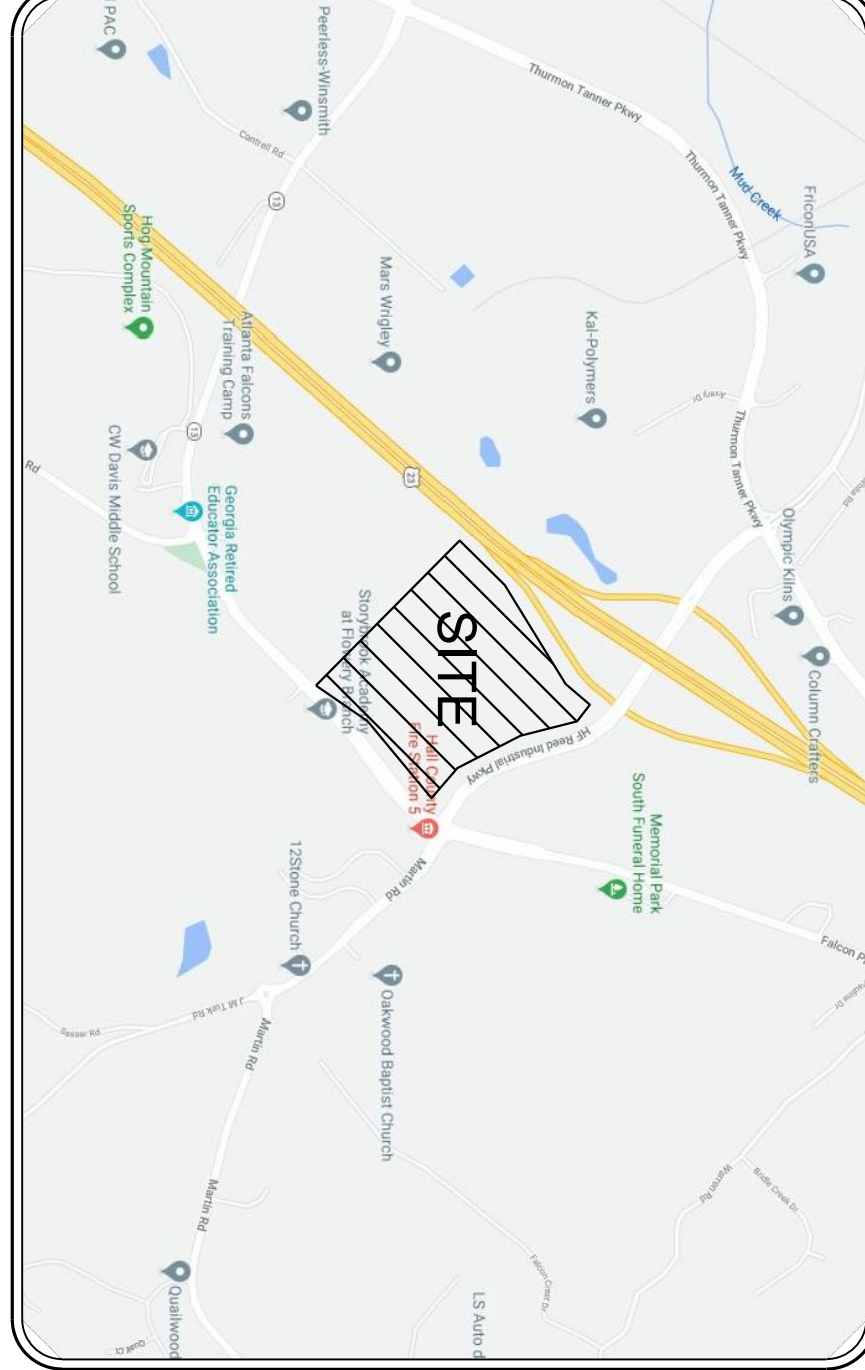
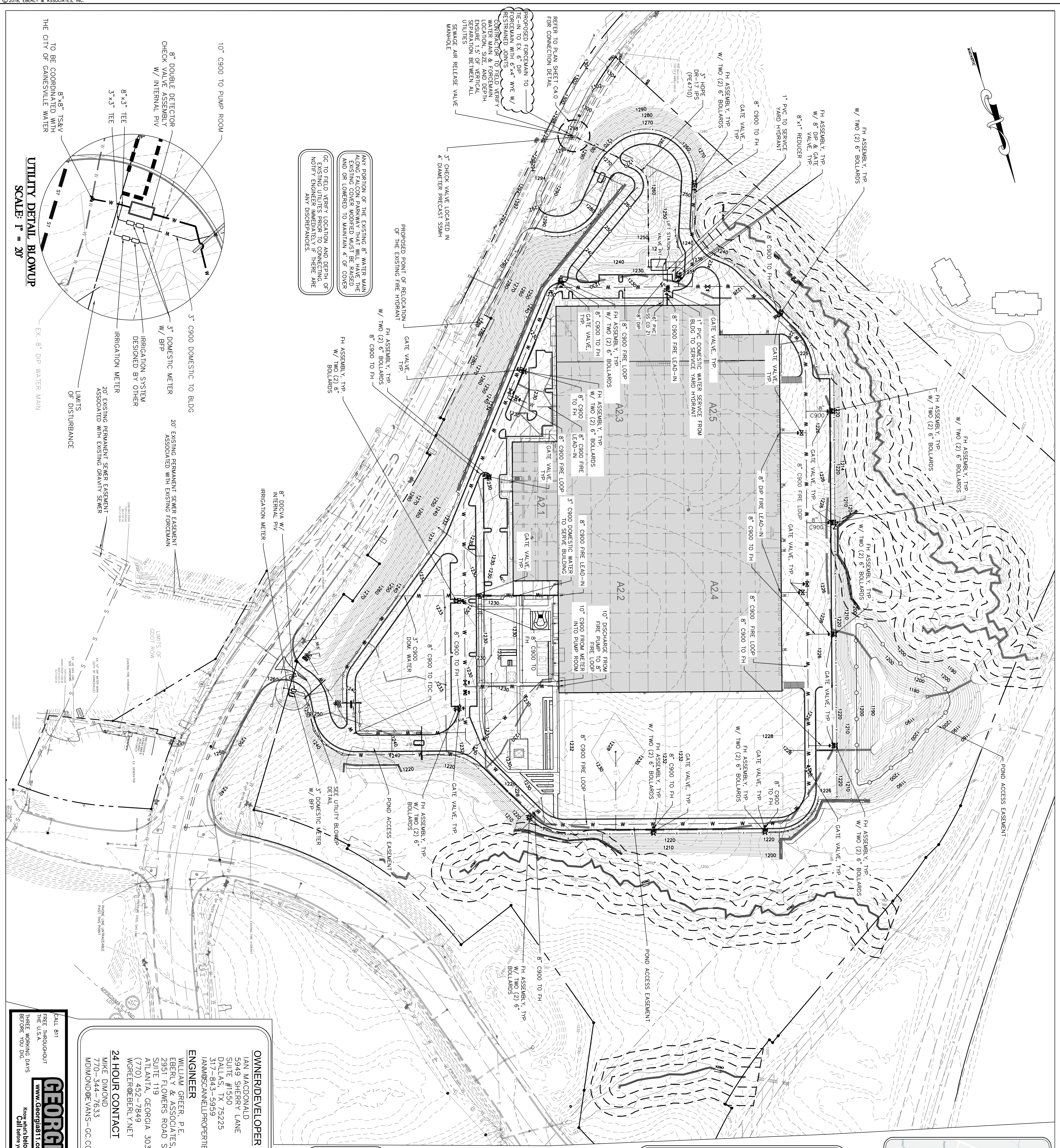
OVERALL LAYOUT & STAKING PLAN

SCALE:	1" = 100'
DATE:	10/16/21
DRAWN BY:	GS
PROJECT MANAGER:	WILLIAM GREER, P.E.
QA/QC CHECK:	WR & BB

PROJECT NO.
19-036

SHEET NO.

C1.0



LOCATION MAP N.T.S.

- ### UTILITY NOTES
1. PROVIDE ALL VALVES, BENDS, TEES, BACK FLOW PREVENTION, THROST, AND OTHER NECESSARY DEVICES AS REQUIRED FOR A COMPLETE INSTALLATION OF THE WATER LINE SYSTEM.
 2. COORDINATE WITH THE LOCAL MUNICIPALITY/PROVIDER FOR PAYMENT AND INSTALLATION OF ALL VALVES, BACK FLOW DEVICES AND METERS.
 3. AN INTERNAL OR EXTERNAL FIRE PUMP IS SHOWN FOR REFERENCE ONLY. PROTECTION ENGINEER, FIRE MAIN DESIGN SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: FIRE PUMP, FIRE MAIN, FIRE MAIN VALVE, FIRE MAIN BLOCKING DESIGN, VALVE FREQUENCY AND PLACEMENT AND APPROPRIATE ALL FIRE PROTECTION SYSTEMS SHALL COMPLY WITH NFPA SECTION 6.6 REGARDING SECTIONAL VALVES UNLESS OTHERWISE SPECIFIED BY THE FIRE PLANS AND SPECIFICATIONS FOR DRAWINGS AND DETAILS. INSTALL FIRE MAIN SYSTEM ONLY AFTER FIRE DEPARTMENT APPROVAL OF THE FIRE PROTECTION CONTRACTOR'S PLANS. DOES NOT MAKE ANY REPRESENTATION, WARRANTY, ASSURANCE OR GUARANTEE, THAT THE EXISTING UTILITY INFORMATION SHOWN IN THESE PLANS IS CORRECT, ACCURATE OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ARRANGE FOR THE FIELD LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE BEGINNING OF CONSTRUCTION. ANY DEVIATION OR UTILITY WORK, FURTHER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE INSTALLATION OF THE GAS LINE AND/OR ELECTRICAL UTILITY PROVIDERS. THE PROPOSED GAS LINE AND/OR ELECTRICAL INFORMATION DERIVED ON THE PLAN IS FOR INFORMATIONAL AND COORDINATION PURPOSES ONLY.
 - 4.

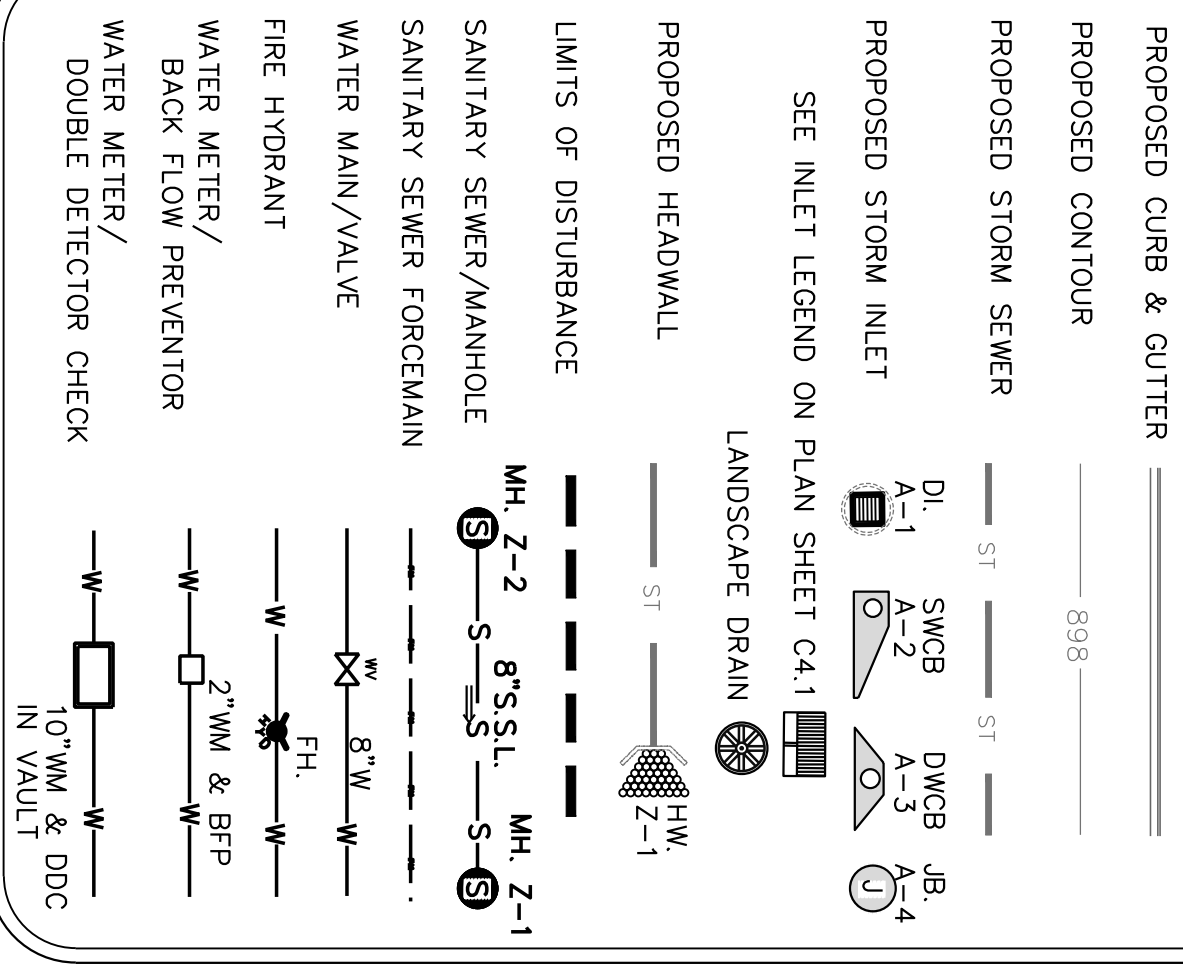
CITY OF FLOWERY BRANCH STANDARD UTILITY NOTES:

- 1) THE FLOWERY BRANCH PUBLIC UTILITIES DEPARTMENT SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY WATER OR SANITARY SEWER LINE CONSTRUCTION OR REPAIRS. ONLY CONTRACTORS APPROVED BY FLOWERY BRANCH PUBLIC UTILITIES DEPARTMENT SHALL BE ALLOWED TO CONDUCT ANY CONSTRUCTION OR REPAIRS CONNECTED TO SAID WATER OR SANITARY SEWER MAINS. CALL ENGINEERING INSPECTOR'S OFFICE PRIOR TO BEGINNING CONSTRUCTION OR TO BECOME AN APPROVED CONTRACTOR FOR BEGINNING CONSTRUCTION OR REPAIRS. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FLOWERY BRANCH STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER MAINS AND SANITARY SEWERS, LATEST EDITION.
- 2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SITE OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RECORD DRAWINGS. SHALL BE MADE AVAILABLE TO THE DESIGNER AND/OR THE CITY INSPECTOR UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED TO DEVELOP FINAL RECORD DRAWINGS. FINAL RECORD DRAWINGS SHALL BE SUBMITTED TO THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES DEPARTMENT FOR REVIEW AND APPROVAL. THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES ENGINEERING AND CONSTRUCTION OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CONSTRUCTION OR REPAIRS. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FLOWERY BRANCH STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER MAINS AND SANITARY SEWERS, LATEST EDITION.
- 3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SITE OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RECORD DRAWINGS. SHALL BE MADE AVAILABLE TO THE DESIGNER AND/OR THE CITY INSPECTOR UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED TO DEVELOP FINAL RECORD DRAWINGS. FINAL RECORD DRAWINGS SHALL BE SUBMITTED TO THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES DEPARTMENT FOR REVIEW AND APPROVAL. THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES ENGINEERING AND CONSTRUCTION OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CONSTRUCTION OR REPAIRS. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FLOWERY BRANCH STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER MAINS AND SANITARY SEWERS, LATEST EDITION.
- 4) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SITE OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RECORD DRAWINGS. SHALL BE MADE AVAILABLE TO THE DESIGNER AND/OR THE CITY INSPECTOR UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED TO DEVELOP FINAL RECORD DRAWINGS. FINAL RECORD DRAWINGS SHALL BE SUBMITTED TO THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES DEPARTMENT FOR REVIEW AND APPROVAL. THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES ENGINEERING AND CONSTRUCTION OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CONSTRUCTION OR REPAIRS. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FLOWERY BRANCH STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER MAINS AND SANITARY SEWERS, LATEST EDITION.
- 5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SITE OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RECORD DRAWINGS. SHALL BE MADE AVAILABLE TO THE DESIGNER AND/OR THE CITY INSPECTOR UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED TO DEVELOP FINAL RECORD DRAWINGS. FINAL RECORD DRAWINGS SHALL BE SUBMITTED TO THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES DEPARTMENT FOR REVIEW AND APPROVAL. THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES ENGINEERING AND CONSTRUCTION OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CONSTRUCTION OR REPAIRS. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FLOWERY BRANCH STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER MAINS AND SANITARY SEWERS, LATEST EDITION.
- 6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SITE OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RECORD DRAWINGS. SHALL BE MADE AVAILABLE TO THE DESIGNER AND/OR THE CITY INSPECTOR UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED TO DEVELOP FINAL RECORD DRAWINGS. FINAL RECORD DRAWINGS SHALL BE SUBMITTED TO THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES DEPARTMENT FOR REVIEW AND APPROVAL. THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES ENGINEERING AND CONSTRUCTION OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CONSTRUCTION OR REPAIRS. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FLOWERY BRANCH STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER MAINS AND SANITARY SEWERS, LATEST EDITION.
- 7) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SITE OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RECORD DRAWINGS. SHALL BE MADE AVAILABLE TO THE DESIGNER AND/OR THE CITY INSPECTOR UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED TO DEVELOP FINAL RECORD DRAWINGS. FINAL RECORD DRAWINGS SHALL BE SUBMITTED TO THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES DEPARTMENT FOR REVIEW AND APPROVAL. THE CITY OF FLOWERY BRANCH PUBLIC UTILITIES ENGINEERING AND CONSTRUCTION OFFICE SHALL BE NOTIFIED 24 HOURS PRIOR TO ANY CONSTRUCTION OR REPAIRS. ALL WORK SHALL BE IN ACCORDANCE WITH THE CITY OF FLOWERY BRANCH STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER MAINS AND SANITARY SEWERS, LATEST EDITION.
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BACKFLOW PREVENTION AND PRETREATMENT NOTES

- 1) PRIOR TO BACKFLOW PREVENTER INSTALLATION, CONTACT BACKFLOW INSPECTOR.
- 2) BACKFLOW PREVENTION DEVICE INSTALLATION REQUIRES A PLUMBING PERMIT AND A BACKFLOW PREVENTION TEST REPORT FROM A PLUMBING INSPECTION DEPARTMENT BY A MASTER PLUMBER.
- 3) PRIOR TO PRETREATMENT DEVICE INSTALLATION, CONTACT PRE-TREATMENT INSPECTOR'S OFFICE.

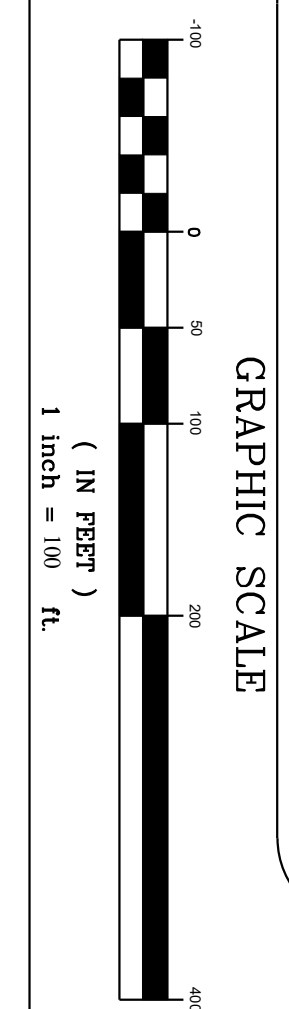
PLAN SHEET LEGEND



OWNER/DEVELOPER
IAN MACDONALD
5949 SHERRY LANE
SUITE #1550
DALLAS, TX 75225
317-843-5959
IAMS@CANNELLPROPERTIES.COM

ENGINEER
WILLIAM GREER, P.E.
EBERLY & ASSOCIATES, INC.
2951 FLOWERS ROAD SOUTH
SUITE 119
ATLANTA, GEORGIA 30341
(770) 452-7849
WGREER@EBERLY.NET
24 HOUR CONTACT
MIKE DIMOND
770-344-7633
MDIMOND@EVANS-CC.COM

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PROJECT:
PROJECT FALCON
LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA
4200 FALCON PARKWAY

REVISIONS:
7/28/21 YARD THROBART REV #1
08/30/21 BROW BRAN KATROVITZ
09/13/21 BOYD KATROVITZ
10/14/21 THOMAS ALBA COORDINATION
11/11/21 SITE PRODUCTION PENCE REV
11/11/21 ADDED RD TO FRONT CUNDRY
12/17/21 0.12 IN. & 0.075 COORD.
12/21/21 0.075 SITE SEWER REVISION
01/26/22 0.075 SITE SEWER REVISION
01/31/22 0.075 IN. CIVIL AND LA REV
02/28/22 0.075 IN. CIVIL AND LA REV
03/04/22 0.075 IN. CIVIL AND LA REV
03/15/22 0.075 IN. CIVIL AND LA REV
03/19/22 0.075 IN. CIVIL AND LA REV
03/24/22 0.075 IN. CIVIL AND LA REV
03/30/22 LANDOWNER SLOPE REV.
04/28/22 FORECMAIN TAP REV
05/17/22 FORECMAIN TAP REV
6/2/22 0.075 IN. CIVIL AND LA REV

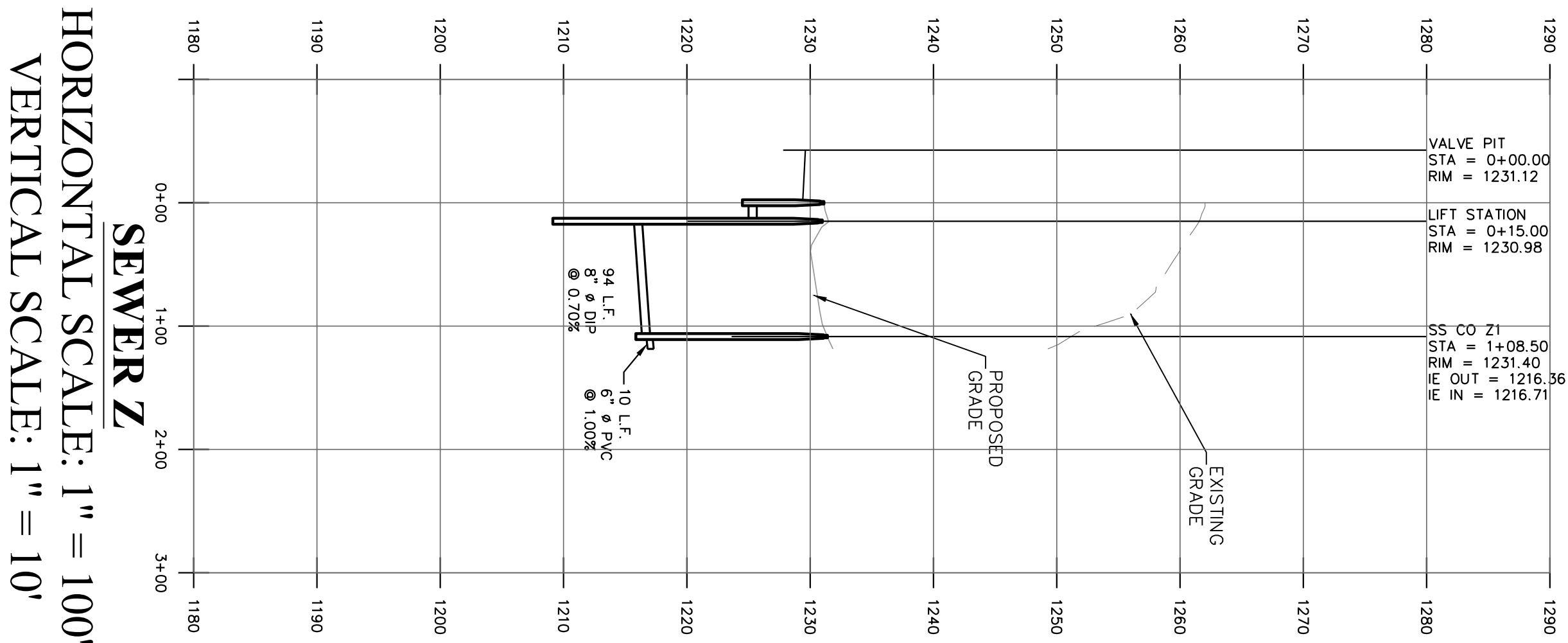
UTILITY PLAN
SCALE: 1"=100'
DATE: 09/16/20
DRAWN BY: 09
PROJECT MANAGER: WILLIAM GREER, P.E.
QA/QC CHECK: WR & BB

PROJECT NO.
19-036

SHEET NO.
C2.0

EBERLY & ASSOCIATES
TEL 770.452.7849 FAX 770.452.0086
2951 FLOWERS ROAD SOUTH, SITE 119
ATLANTA, GEORGIA 30341
WWW.EBERLY.NET

LAND PLANNING
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE



SEWER Z

HORIZONTAL SCALE: 1" = 100'
VERTICAL SCALE: 1" = 10'

SCALE:	1"= 100'
DATE:	10/16/20
DRAWN BY:	GS
PROJECT MANAGER:	WILLIAM GREER, P.E.
QA/QC CHECK:	WR & BB

19-036

3.0

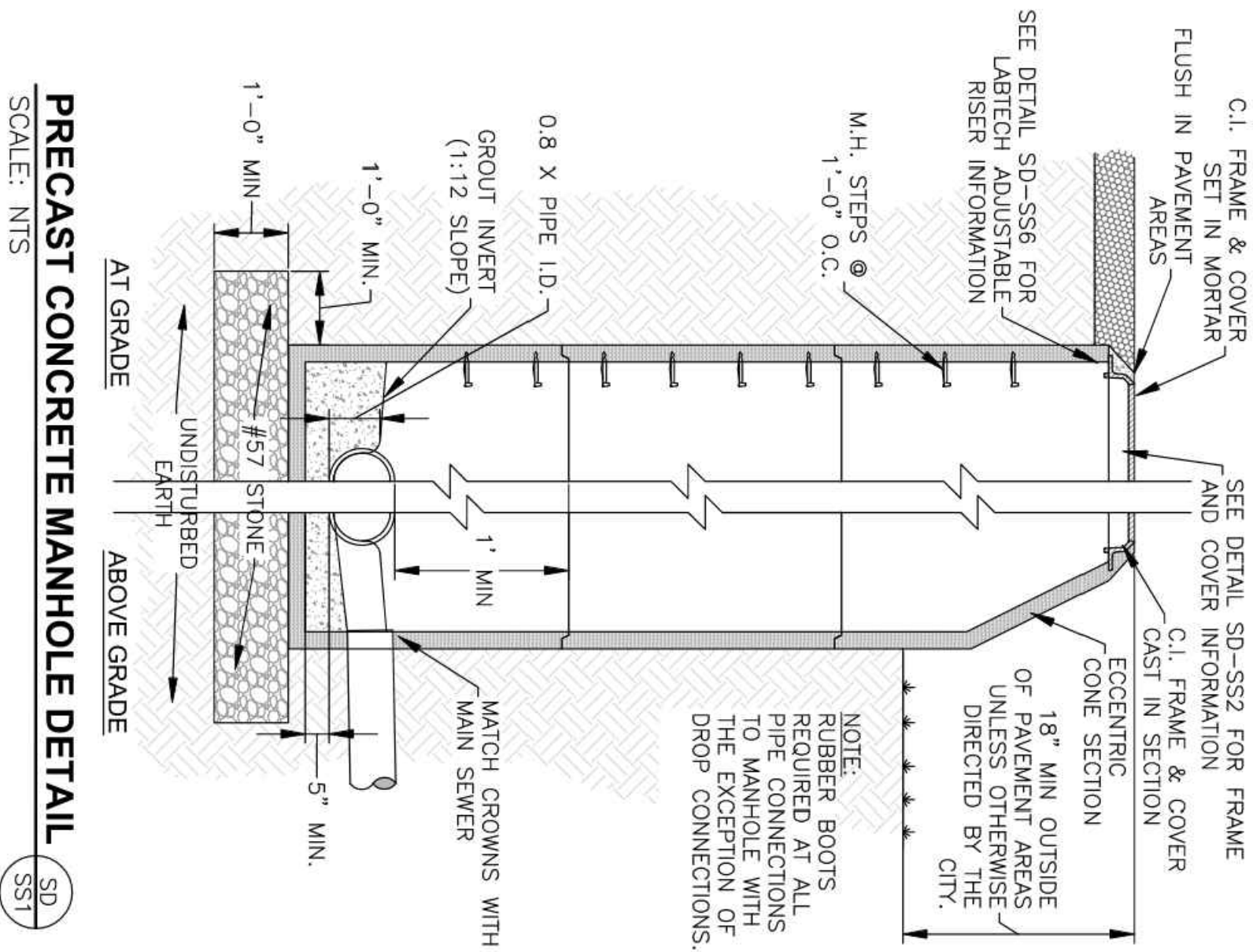
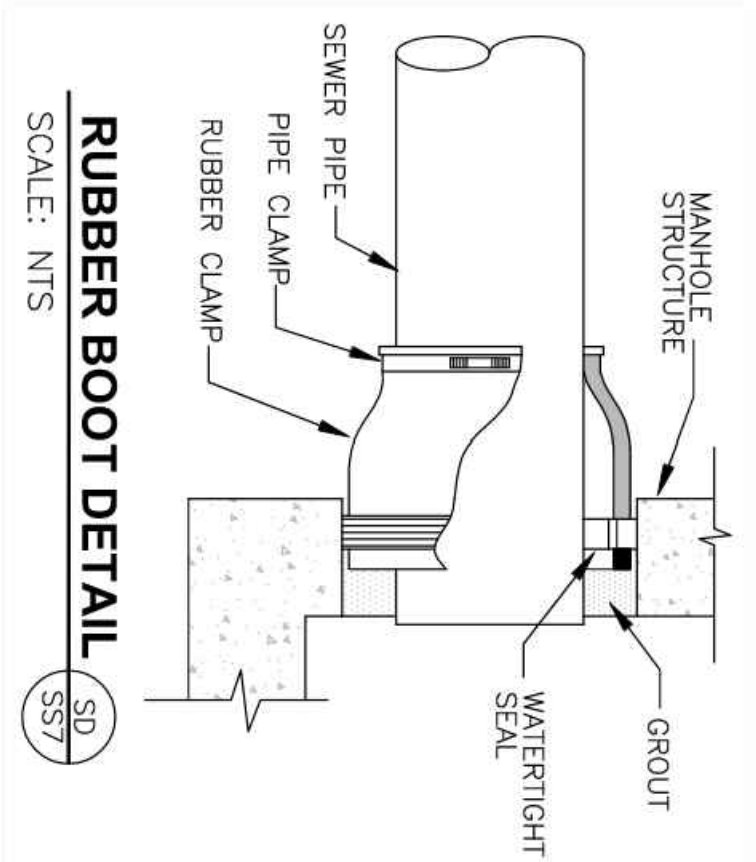
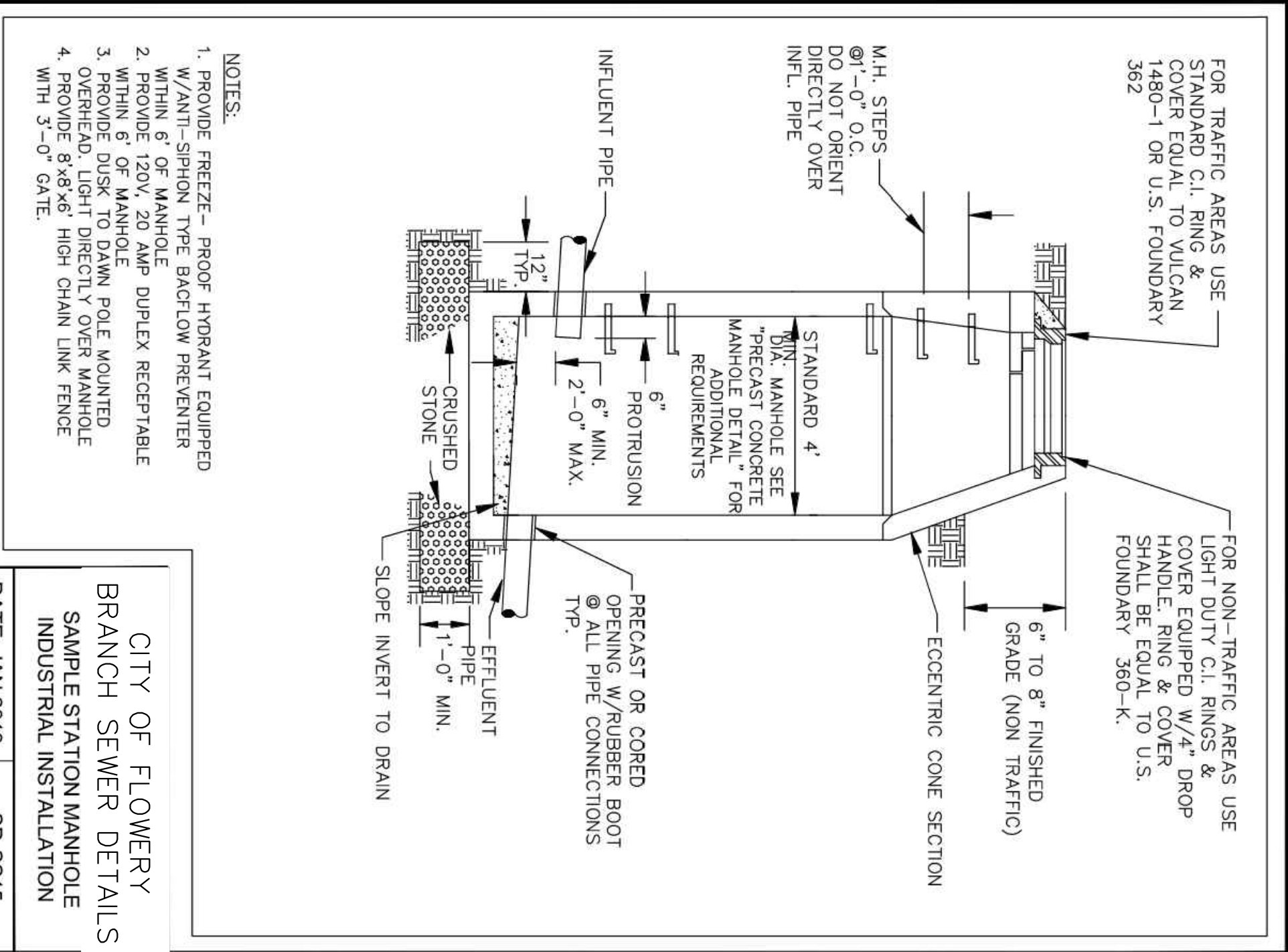
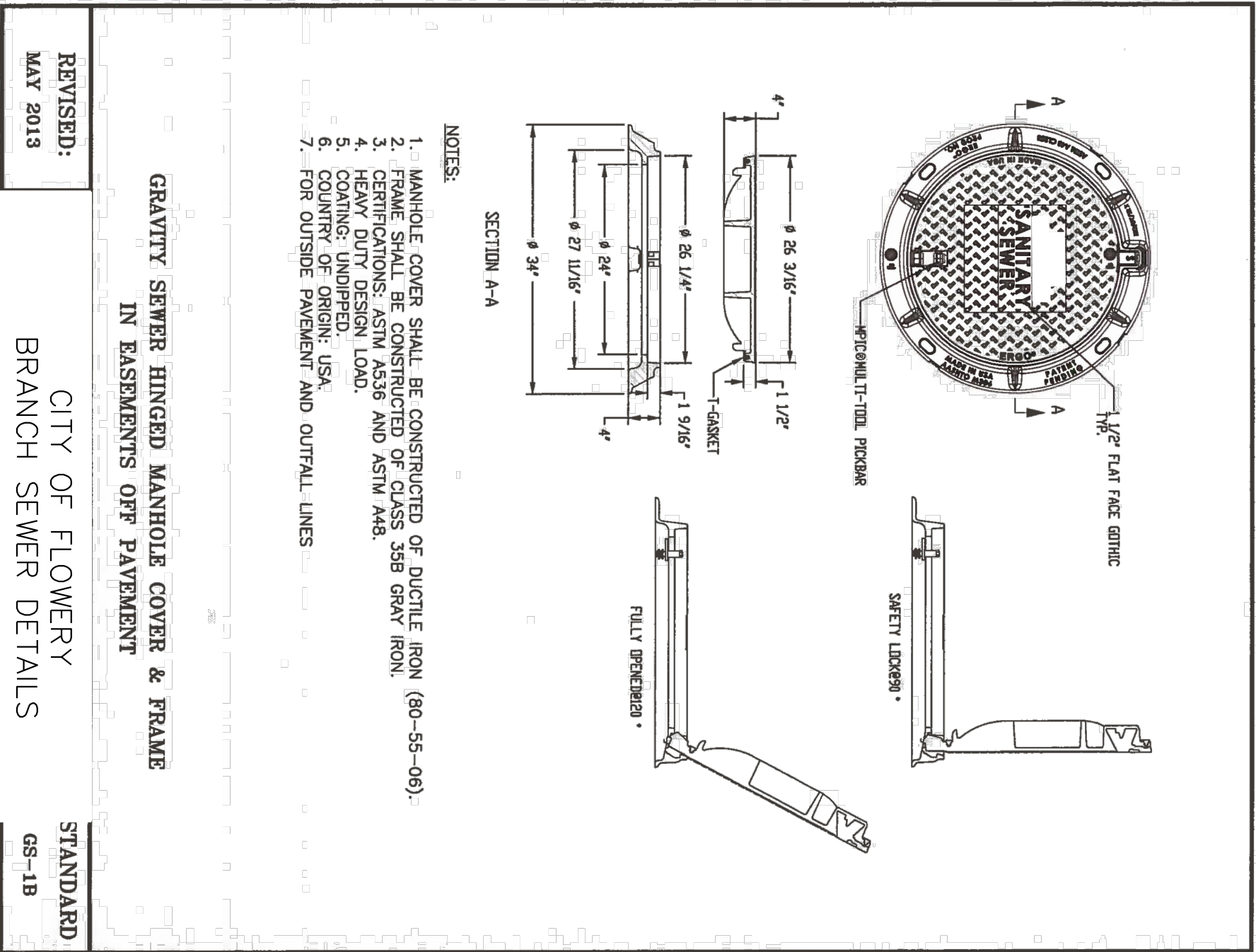
LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA
4200 FALCON PARKWAY



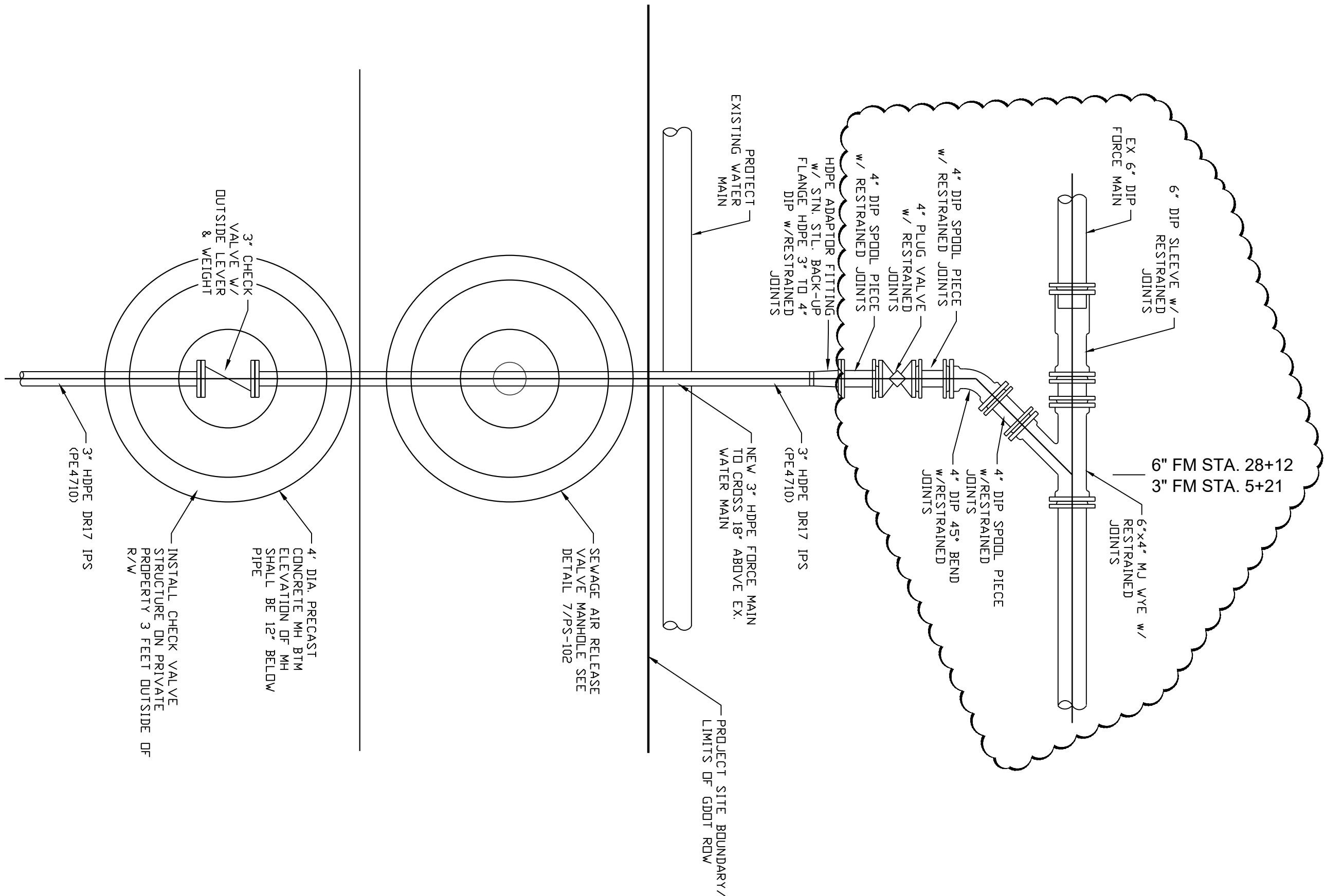
LANDPLANNING
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE

TEL: 770.452.7849 FAX: 770.452.0086
2951 FLOWERS ROAD SOUTH, STE 119
ATLANTA, GEORGIA 30341
WWW.EBERLY.NET





- CONSTRUCTION SEQUENCE NOTES
1. STATIONING IS BASED ON EXISTING FORCE MAIN PROFILE STATIONING.
 2. INSTALL THE NEW FORCE MAIN PIPING FROM STA. 0+00 TO THE PUMP VALVE AT STA. 5+18 AND PRESSURE TEST THE NEW FORCE MAIN PIPING TO 100 PSI.
 3. COORDINATE WITH THE POTW OWNER (IE FLOWERY BRANCH) PRIOR TO MAKING THE PIPE CONNECTION TO THE EXISTING 6" FORCE MAIN. THE CONNECTION SHALL BE ACCOMPLISHED IN ONE 4-HOUR PERIOD DURING THE DAYTIME HOURS.
 4. THE POTW WILL SHUT DOWN PUMP STATION AND OPEN THE CHECK VALVE TO DRAIN WASTEWATER FROM THE FORCE MAIN BACK TO PUMP STATION WET WELL TO THE EXTENT POSSIBLE. UPSTREAM GRAVITY SEWER LINES AND MANHOLES MAY BE USED FOR STORAGE OF WASTEWATER TO A MAXIMUM DEPTH OF 2 FEET IN UPSTREAM MANHOLES. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING SEWER LINES FROM REMOVAL BY ACCIDENT OR OTHERWISE AS REQUIRED TO MAINTAIN A MINIMUM WATER DEPTH OF 2 FEET IN UPSTREAM MANHOLES.
 5. IF THE ENTIRE LENGTH OF FORCE MAIN CANNOT BE DRAINED INTO THE PUMP STATION WET WELL, INSTALL A TEMPORARY FORCE LINED SUMP AT STA. 28+12 WHERE THE PIPE WILL BE CUT, DRAIN CAPTURE AND PROPERLY DISPOSE OF WASTEWATER FROM THE EXISTING FORCE MAIN.
 6. CONSTRUCT THE FORCE MAIN PIPING TO THE EXISTING PIPING USING A SLEEVE AND FITTINGS WITH RESTRAINED JOINTS AS INDICATED ON THE PLAN.
 7. PIPE CONNECTIONS OF CONNECTIONS AND PRIOR TO PLACING BACKFILL, FILL FORCE MAIN PIPING AND VISUALLY CONFIRM THAT FORCE MAIN PIPING IS NOT LEAKING UNDER NORMAL OPERATING PRESSURE.
 8. PLACE FINAL BACKFILL AND PLACE THE FORCE MAIN BACK INTO SERVICE.

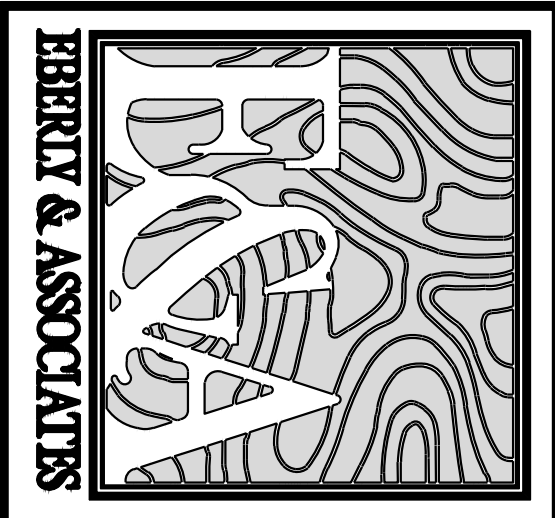


3" HDPE TO 6" DIP FORCE MAIN CONNECTION DETAIL

SCALE: 1/2" = 1'-0"

8

PS-102



TEL 770.452.7849 FAX 770.452.0066
2251 FLOWERS ROAD SOUTH, SITE 119
ATLANTA, GEORGIA 30341
WWW.EBERLY.NET

LAND PLANNING
CIVIL ENGINEERING
LANDSCAPE ARCHITECTURE

PROJECT FALCON

LAND LOT 72
8TH DISTRICT
HALL COUNTY, GEORGIA
4200 FALCON PARKWAY

PROJECT:

REVISIONS:

NO.	DATE	DESCRIPTION
7/28/21	7/28/21	YARD HYDRANT REV #6
08/30/21	08/30/21	BOF DRAIN MANHOLE 12
09/13/21	09/13/21	BOF PIPE LAYOUT CHANGE
10/14/21	10/14/21	TRAINING AREA CORRECTION
11/11/21	11/11/21	SHRUB REMOVAL FROM RAY
12/17/21	12/17/21	ADDED BO TO FRONT CANOPY
12/21/21	12/21/21	SHRUB REMOVAL FROM RAY
01/26/22	01/26/22	OFF-SITE SEWER REVISION
01/31/22	01/31/22	OFF-TH CIVIL AND LA REV
02/28/22	02/28/22	CIS & PUMP EXHIBIT REV
03/04/22	03/04/22	OFF-TH CIVIL & LA REV #2
03/15/22	03/15/22	OFF-SITE SEWER REVISION
03/19/22	03/19/22	COARDED GATE & PUMP REV
03/24/22	03/24/22	SEWER DIP AMENDMENT
03/30/22	03/30/22	LAWNOWER SLOPE REV
04/28/22	04/28/22	FORCMAIN TAP
05/17/22	05/17/22	FORCMAIN TAP REV
6/2/22	6/2/22	OFF-TH SIDEWALK REV

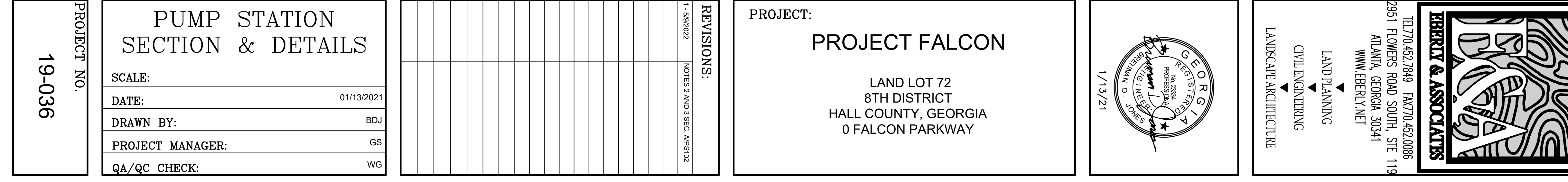
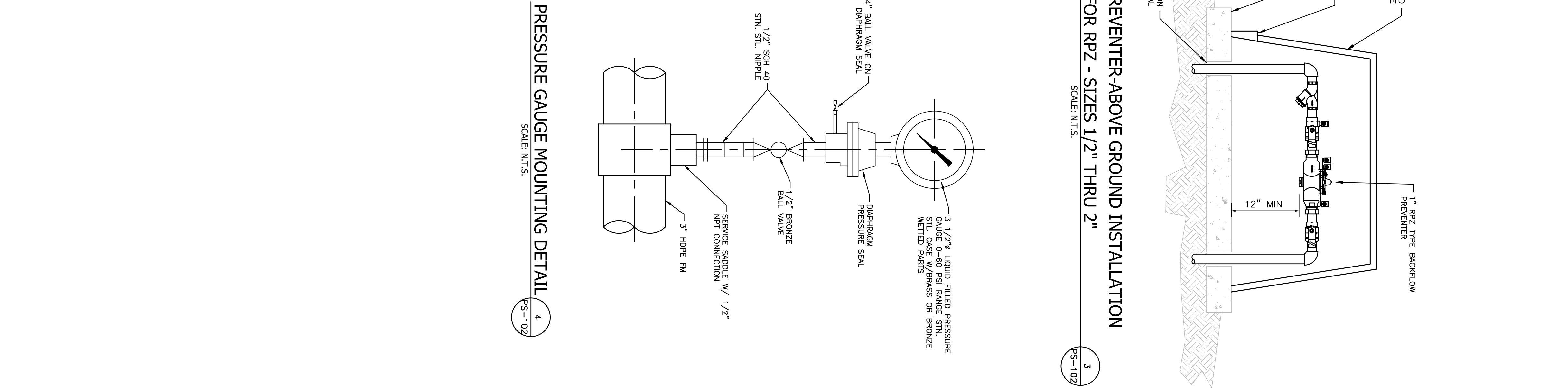
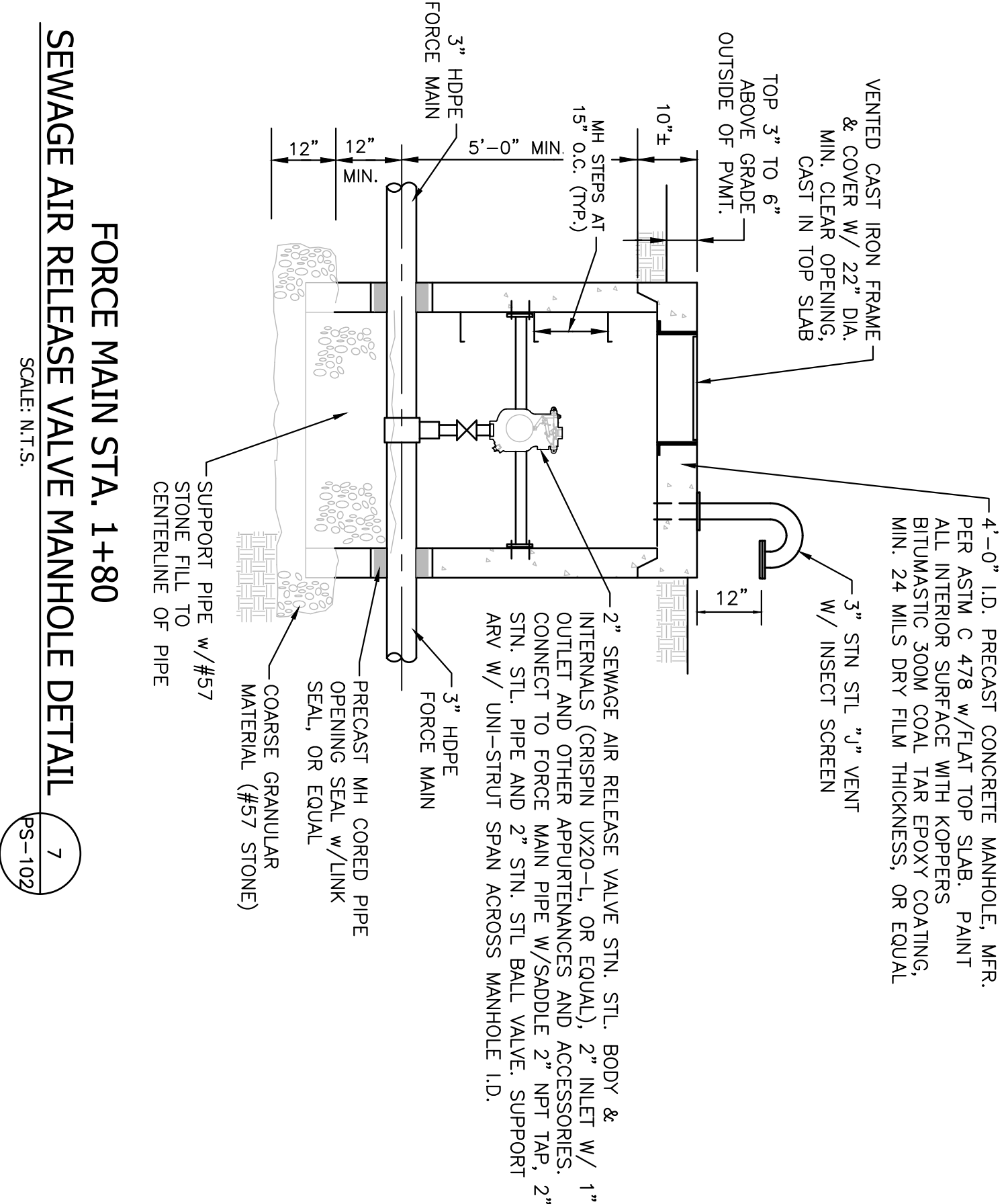
SEWER CONSTRUCTION DETAILS

SCALE:	10/16/20
DATE:	09
DRAWN BY:	WILLIAM GREER, P.E.
PROJECT MANAGER:	WILLIAM GREER, P.E.
QA/QC CHECK:	WR & BB

PROJECT NO.
19-036

SHEET NO.

C4.0





FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider Master Services Agreement with ESG Engineering, Inc.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The City of Flowery Branch has several water, wastewater, stormwater and other projects ongoing and planned currently. With one of the engineers the city currently uses not taking on as many projects, staff identified another firm with expertise in these areas and would like to use ESG Engineering for several projects.

FACTS AND ISSUES:

The master services agreement will be followed by task orders to allocate a set funding amount for professional services. The master services agreement sets the parameters of the contract with ESG Engineering.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the Master Services Agreement with ESG Engineering.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary Master Services Agreement with ESG Engineering, Inc..pdf](#)
- [MasterAgreement- Flowery Branch.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Master Services Agreement with ESG Engineering, Inc.

DATE: July 21, 2022

BUDGET INFORMATION:

ANNUAL- No change

CAPITAL- No change

☒ **RECOMMENDATION**

☐ **POLICY DISCUSSION**

☐ **STATUS REPORT**

☐ **OTHER**

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing a master services agreement with ESG Engineering for water, sewer, stormwater and other engineering.

HISTORY: The City of Flowery Branch has several water, wastewater, stormwater and other projects ongoing and planned currently. With one of the engineers the city currently uses not taking on as many projects, staff identified another firm with expertise in these areas and would like to use ESG Engineering for several projects.

FACTS AND ISSUES: The master services agreement will be followed by task orders to allocate a set funding amount for professional services. The master services agreement sets the parameters of the contract with ESG Engineering.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the master services agreement with ESG Engineering.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

STANDARD AGREEMENT FOR PROFESSIONAL SERVICES

ESG ENGINEERING'S OFFICE	6400 Peake Road, Macon, GA 31210
ESG ENGINEERING'S PROJECT	Master Agreement 2022/2023
PROJECT NAME:	Master Services Agreement for Comprehensive Engineering Services
CLIENT:	City of Flowery Branch
CLIENT'S ADDRESS:	5410 Pine Street, Flowery Branch, GA, 30542

CLIENT requests and authorizes ESG Engineering, Inc. (hereinafter "ESG Engineering") to perform the following Services:

Scope of Services

ESG Engineering, in support of Client, shall provide comprehensive engineering and consulting services on an as-needed basis at the request of Client. Specific services conducted by ESG Engineering shall be authorized through written Task Orders. Each Task Order shall consist of a Scope of Work containing a schedule, deliverables, and budget, in addition to a description of the services to be provided (the 'Services'). The terms and conditions of this Master Services Agreement (the 'Agreement') shall be applicable to each Task Order and incorporated by reference within each Task Order.

Compensation

Compensation by Client to ESG Engineering for each Task Order will be based on either a lump sum amount or a time and expense basis (Rate Table included as Attachment A), depending on the type of work to be performed for each Task Order. The type of compensation will be indicated in each Task Order.

If a Task Order is to be compensated on a time and expense basis, the Task Order shall specify a not-to-exceed amount. ESG Engineering shall incur no time or expense in excess of this amount without the express written approval of the Client.

ESG Engineering shall invoice Client on a monthly basis, with payment due and payable 30 days after receipt.

Other Terms

Each party's designated representative for a particular Scope of Work will be named in each Task Order.

The following documents shall be incorporated by reference to this Agreement following the mutual approval of any Task Order:

- Attachment A- Rate Table; Attachment B – Sample Task Order Scope of Services / Proposal (Initiated upon request of Client); and Attachment C – Schedule of Insurance Coverage.

Services covered by this AGREEMENT will be performed in accordance with the Provisions and applicable terms and conditions of the Task Order in question. This AGREEMENT supersedes all prior agreements and understandings and may only be changed by written amendment executed by both parties.

CLIENT: CITY OF FLOWERY BRANCH

Signature _____

Name (printed) _____

Title _____

Date _____

ESG ENGINEERING, INC.:

Signature  _____

Name (printed) Trey Gavin

Title Senior Vice-President

Date 06/06/2022

PROVISIONS

1. Authorization to Proceed

Execution of this AGREEMENT by CLIENT will be authorization for ESG Engineering to proceed with the performance of Services defined by the issuance of a Task Order, unless otherwise provided for in this AGREEMENT.

2. Per Diem Rates

ESG Engineering's and its affiliated companies' Per Diem Rates, when the basis of compensation, are those hourly or daily rates charged for Services performed in conjunction with a particular Task Order by ESG Engineering employees. If applicable, these rates will be contained in the issued and agreed upon task order.

3. NOT USED

4. Cost Opinions

Any cost opinions or project economic evaluations provided by ESG Engineering will be on a basis of experience and judgment, but, since ESG Engineering has no control over market conditions or bidding procedures, ESG Engineering cannot warrant that bids, ultimate construction cost, or project economics will not vary from these opinions.

5. Standard of Care

The standard of care applicable to ESG Engineering's services will be the degree of skill and diligence normally employed by professional engineers or consultants performing the same or similar services at the time ESG Engineering's services are performed. ESG Engineering will re-perform any services not meeting this standard without additional compensation.

6. Termination

This AGREEMENT may be terminated for convenience on 30 days' written notice or if either party fails substantially to perform through no fault of the other and does not commence correction of such nonperformance within 5 days of written notice and diligently complete the correction thereafter. On termination, ESG

Engineering will be paid for all authorized work performed up to the termination date plus termination expenses, such as, but not limited to, reassignment of personnel, subcontract termination costs, and related closeout costs.

7. Payment to ESG Engineering

Monthly invoices will be issued by ESG Engineering for all Services performed under this AGREEMENT. CLIENT shall pay each invoice within 30 days. Interest at a rate of 1-1/2 percent per month will be charged on all past-due amounts.

In the event of a disputed billing, only that disputed portion will be withheld from payment, and the undisputed portion will be paid. CLIENT will exercise reasonableness in disputing any bill or portion thereof. No interest will accrue on any disputed portion of the billing until mutually resolved.

8. Limitation of Liability

ESG Engineering's liability for CLIENT's damages will, in the aggregate, not exceed the limits of insurance coverage available at the time of signature of this agreement. This Provision takes precedence over any conflicting Provision of this AGREEMENT or any document incorporated into it or referenced by it.

In no event shall ESG Engineering, its affiliated corporations, officers, employees, or any of its subcontractors be liable for any incidental, indirect, special, punitive, economic or consequential damages, including but not limited to loss of revenue or profits, suffered or incurred by CLIENT or any of its agents, including other contractors engaged at the project site, as a result of this Agreement or ESG Engineering's performance or non-performance of services pursuant to this Agreement.

Limitations of liability provided herein will apply whether ESG Engineering's liability arises under breach of contract or warranty; tort, including negligence; strict liability; statutory liability; or any other cause of action, and shall include ESG Engineering's officers, affiliated corporations, employees, and subcontractors.

9. Severability and Survival

If any of the provisions contained in this AGREEMENT are held illegal, invalid or unenforceable, the other provisions shall remain in full effect. Limitations of liability shall survive termination of this AGREEMENT for any cause.

10. No Third Party Beneficiaries

This AGREEMENT gives no rights or benefits to anyone other than CLIENT and ESG Engineering and its third party beneficiaries as provided in Provision 8.

11. Materials and Samples

Any items, substances, materials, or samples removed from a project site for testing, analysis, or other evaluation will be returned to the project site unless agreed to otherwise. CLIENT recognizes and agrees that ESG Engineering is acting as a bailee and at no time assumes title to said items, substances, materials, or samples. CLIENT recognizes that ESG Engineering assumes no risk and/or liability for a waste or hazardous waste site originated by other than ESG Engineering.

12. Assignments

Neither party shall have the power to or will assign any of the duties or rights or any claim arising out of or related to this AGREEMENT, whether arising in tort, contract or otherwise, without the written consent of the other party. Any unauthorized assignment is void and unenforceable.

13. Integration

This AGREEMENT incorporates all previous communications and negotiations and constitutes the entire agreement of the parties. If CLIENT issues a Purchase Order in conjunction with performance of the Services, general or standard terms and conditions on the Purchase Order do not apply to this AGREEMENT.

14. Force Majeure

If performance of the Services is affected by causes beyond ESG Engineering's reasonable control, project schedule and compensation shall be equitably adjusted.

15. Dispute Resolution

The parties will use their best efforts to resolve amicably any dispute, including use of alternative dispute resolution options.

16. Changes

CLIENT may make or approve changes within the general Scope of Services provided by the terms of a particular Task Order. If such changes affect ESG Engineering's cost of or time required for performance of the services, an equitable adjustment will be made through an amendment to the Task Order in question.

17. Opinions of Cost, Financial Considerations, and Schedules

In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for a project, ESG Engineering has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, ESG Engineering makes no warranty that CLIENT's actual project costs, financial aspects, economic feasibility, or schedules will not vary from ESG Engineering's opinions, analyses, projections, or estimates. If CLIENT wishes greater assurance as to any element of Project cost, feasibility, or schedule, CLIENT will employ an independent cost estimator, contractor, or other appropriate advisor.

18. Access to Facilities and Property

CLIENT will make its facilities accessible to ESG Engineering as required for the performance of its services and will provide labor and safety equipment as required by ESG Engineering for such access. CLIENT will perform, at no cost to ESG Engineering, such tests of equipment, machinery, pipelines, and other components of CLIENT's facilities as may be required in connection with ESG Engineering's services.

19. Reuse of Project Documents

All reports, drawings, specifications, documents, and other deliverables of ESG Engineering, whether in hard copy or in electronic form, are instruments of service for the pertinent Task Order, whether the Task Order is completed or not. CLIENT agrees to indemnify ESG Engineering and its officers, employees, subcontractors, and affiliated corporations from all claims, damages, losses, and costs, including, but not limited to, litigation expenses and attorney's fees arising out of or related to the unauthorized reuse, change or alteration of these Task Order documents to the extent allowed under Georgia law.

20. Client-Furnished Data

CLIENT will provide to ESG Engineering all data in CLIENT's possession relating to ESG Engineering's Services. ESG Engineering will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by CLIENT.

2022 Hourly Billing Rates

TO Flowery Branch

FROM: ESG Engineering, Inc.

Hourly Billing Rates for 2022

Staff Title	2022 Hourly Rates
Principal	195
Senior Technologist	180
Senior Project Engineer	165
Project Engineer/Project Manager	144
Senior GIS Analyst	120
Staff Engineer III	117
Staff Engineer II	106
Staff Engineer	95
Engineering Intern	86
CAD Tech I	95
GIS Tech	85
Admin	68
GPS Tech	65
Engineering Intern	55

TASK ORDER AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is by and between ESG Engineering, Inc. (ESG Eng) and _____, by and through its City Council (the "City").

ESG Eng's Address: _____ 6400 Peake Road, Macon Georgia 31210

City's Address: _____

Project Name: _____

Project Location: _____

ESG Project Number: _____

The City and ESG Eng are parties to the "Task Order Agreement for Consultant Services (Master Services Agreement)" dated the _____ day of _____, 2022 (the 'Agreement'). The Scope of Services to be performed under this Task Order shall be performed subject to the terms and conditions of said Agreement.

1 SCOPE OF SERVICES

ESG Eng, in conjunction with sub-consultants, will perform the following Scope of Services:

Task 1- Design Engineering and Permitting

- Provide Complete set of Construction Plans, Technical Specifications, and Bidding Documents for City's use in procuring public bids
- Assist City during bid and contracting process including coordination and attendance at Bid Opening, contract administration and coordination and attendance at a Preconstruction Conference

All work under this task shall be billed lump sum at the price provided in the included table.

Task 2- Construction Administration

- Review and approve all submittals, schedules, and subcontractor lists
- Attend progress meetings and verify construction progress and adherence to approved Plans and Specifications
- Review and approve all payment requests
- Oversee punchlist meeting and provide Certification of Work Complete

All work under this task shall be billed lump sum at the price provided in the included table.

2 COMPENSATION

The City will compensate ESG Eng as set forth below for the tasks described and for the Scope of Services performed by ESG pursuant to the terms provided below and the terms and conditions of the Agreement. In the event of a conflict between the provisions of this Task Order and the terms of the Agreement concerning the issue of compensation, the conflict or ambiguities shall be resolved according to the applicable compensation terms of this Task Order.

Task 1 - Design Engineering including Plans & Specifications utilizing the City's format, bid administration, and contract administration	\$
Task 2 - Construction Administration including monthly progress meetings, verification of construction progress (project inspection once/week on average) and payment request approval, punch list meeting, and engineer's certification of work complete	\$
Total Amount	\$

*Full Time Resident Observation is not included in this task

3 OBLIGATIONS OF THE CITY

In addition to those obligations provided by the terms and conditions of the Agreement, the City shall:

3.1 City-Furnished Data

The City will provide to ESG all data in the City's possession relating to ESG's performance of the Scope of Services regarding the PROJECT. ESG will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the City.

3.2 Access to Facilities and Property

The City will make its facilities accessible to ESG as required for ESG's performance of the Scope of Services and will provide labor and safety equipment as required by ESG for such access. The City will perform, at no cost to ESG, such tests of equipment, machinery, pipelines, and other components of the City's facilities as may be required in connection with ESG's services.

3.3 Operations Assistance and Services

The City authorizes ESG to operate, modify, inspect and otherwise physically manipulate equipment, furnishings, property and other elements associated with the performance of the Scope of Services. The City authorizes ESG to take such actions in these respects as ESG considers necessary to meet the objectives of the Scope of Services.

3.4 Advertisements, Permits, and Access

The City will obtain, arrange, and pay for all advertisements for bids; permits and licenses required by local, state, or federal authorities; and land, easements, rights-of-way, and access necessary for ESG's services.

3.5 Timely Review

The City will examine ESG's studies, reports, sketches, drawings, specifications, proposals, and other documents; obtain advice of an attorney, insurance counselor, accountant, auditor, bond and financial advisors, and other consultants as the City deems appropriate; and render in writing decisions required by the City in a timely manner.

3.6 Prompt Notice

The City will give prompt written notice to ESG whenever the City observes or becomes aware of any development that affects the scope or timing of ESG's performance, or of any defect in the work of ESG.

3.7 Changes

The City may request changes within the general Scope of Services in this Task Order. If such changes affect ESG's cost of or time required for performance of the services, an equitable adjustment will be made through an amendment to this Task Order. All requested changes will be made in writing and are subject to acceptance by ESG.

4 GENERAL LEGAL PROVISIONS

4.1 Authorization to Proceed

Execution of this Task Order by the City will be authorization for ESG to proceed with the work, unless otherwise provided for in this Task Order.

4.2 Force Majeure

ESG is not responsible for damages or delay in performance caused by acts of God, strikes, lockouts, accidents, or other events beyond the control of ESG. In any such event, ESG's contract price and schedule shall be equitably adjusted.

4.3 No Conflict of Interest for Future Work

The services performed by ESG under this Task Order do not preclude ESG from proposing on or providing such services to the City in the future. Information and knowledge gained by ESG in providing services under this contract shall not constitute a conflict of interest in proposing on or providing full contract operations, full contract maintenance, or full contract utility management.

4.4 Third Party Beneficiaries and Scope of Services

This Task Order gives no rights or benefits to anyone other than the City and ESG and has no third party beneficiaries. The services to be performed for the City by ESG are defined solely by this Task Order and the terms and conditions of the Agreement.

4.5 Materials and Samples

Any items, substances, materials, or samples removed from the project site for testing, analysis, or other evaluation will be returned to the project site within 60 days of close-out unless agreed to otherwise. Exceptions to this clause are items subjected to destructive testing or samples with nominal intrinsic value, such as samples of liquid, solid or gaseous materials that are non-hazardous. The City recognizes and agrees that ESG is acting as a Bailee and at no time assumes title to said items, substances, materials, or samples.

4.6 Assignments

Neither party shall have the power to or will assign any of the duties or rights or any claim arising out of or related to this Task Order, whether arising in tort, contract or otherwise, without the written consent of the other party. Any unauthorized assignment is void and unenforceable. These conditions and the entire Task Order are binding on the successors and assigns of the parties hereto.

5 ATTACHMENTS, SCHEDULES, AND SIGNATURES

This Task Order, including its attachments and schedules, and the terms and conditions of the Agreement constitutes the entire agreement between the parties, supersedes all prior written or oral understandings, and may only be changed by a written amendment executed by both parties.

IN WITNESS WHEREOF, the parties execute below:

Approved for _____ (Print and sign name)

By _____

Name _____

Title _____

Date _____

Approved for ESG Engineering (Print and sign name)

By _____

Name _____

Title _____

Date _____

ACORD™

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

5/25/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Marsh & McLennan Agency LLC 200 Brookstone Centre Pkwy Suite 118 Columbus, GA 31904		CONTACT NAME: Rebecca Hightower	
		PHONE (A/C, No, Ext): -	FAX (A/C, No):
		E-MAIL ADDRESS: Rebecca.Hightower@MarshMMA.com	
		INSURER(S) AFFORDING COVERAGE	
		INSURER A : Hartford Underwriters Insurance Co.	NAIC # 30104
		INSURER B : Sentinel Insurance Co., LTD	11000
		INSURER C : Hartford Accident & Indemnity	22357
		INSURER D :	
		INSURER E :	
		INSURER F :	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC OTHER:			20SBAAN6EMX	10/15/2021	10/15/2022	EACH OCCURRENCE \$2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$1,000,000 MED EXP (Any one person) \$10,000 PERSONAL & ADV INJURY \$2,000,000 GENERAL AGGREGATE \$4,000,000 PRODUCTS - COMP/OP AGG \$4,000,000 \$
C	AUTOMOBILE LIABILITY ☒ ANY AUTO OWNED AUTOS ONLY ☒ HIRED AUTOS ONLY ☐ SCHEDULED AUTOS NON-OWNED AUTOS ONLY			20UECEI0363SA	10/15/2021	10/15/2022	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	☒ UMBRELLA LIAB ☒ EXCESS LIAB ☐ DED ☐ RETENTION \$			20SBAAN6EMX	10/15/2021	10/15/2022	EACH OCCURRENCE \$4,000,000 AGGREGATE \$4,000,000 \$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☒ Y / ☒ N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	20WECAN6FSR	10/15/2021	10/15/2022	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

(AU) Additional insured per form HA 99 16 03 12- Commercial Automobile Broad Form

(GL) Blanket Additional Insured per form SL 30 32 06 21

CERTIFICATE HOLDER	CANCELLATION
City of Flowery Branch PO Box 757 Flowery Branch, GA 30542	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>PETER J. KRAUSE</i>



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider Approval of Task Order for Professional Services for ESG Engineering, Inc.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The City of Flowery Branch has several water, wastewater, stormwater and other projects ongoing and planned currently. With one of the engineers the city currently uses not taking on as many projects, staff identified another firm with expertise in these areas and would like to use ESG Engineering for several projects.

FACTS AND ISSUES:

The master services agreement is in place, and this is the first task order which sets a funding amount for professional services to be used as the city needs. The funding amount requested is \$50,000 and is already included in the operating budget. The projects include but are not limited to: review of wastewater tie-ins as developers request, working with developers on easements, routes, sizes of pipes, force mains, water lines, bidding projects, working with EPD and GEFA, council presentations, etc.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$50,000 - already budgeted in the Operating Budget

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the attached task order with ESG Engineering for an amount not to exceed \$50,000.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary Task Order for Professional Services for ESG Engineering, Inc..pdf](#)
- [ESG Engineering Task Order Agreement for Professional Services.pdf](#)

**FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY**

SUBJECT: Task Order for Professional Services for ESG Engineering, Inc.

DATE: July 21, 2022

☒ **RECOMMENDATION**

☐ **POLICY DISCUSSION**

BUDGET INFORMATION:

☐ **STATUS REPORT**

ANNUAL- \$50,000 (budgeted)

☐ **OTHER**

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing a task order with ESG Engineering for water, sewer, stormwater and other engineering.

HISTORY: The City of Flowery Branch has several water, wastewater, stormwater and other projects ongoing and planned currently. With one of the engineers the city currently uses not taking on as many projects, staff identified another firm with expertise in these areas and would like to use ESG Engineering for several projects.

FACTS AND ISSUES: The master services agreement is in place and this is the first task order which sets a funding amount for professional services to be used as the city needs. The funding amount requested is \$50,000 and is already included in the operating budget. The projects include but are not limited to: review of wastewater tie-ins as developers request, working with developers on easements, routes, sizes of pipes, force mains, water lines, bidding projects, working with EPD and GEFA, council presentations, etc.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the attached task order with ESG Engineering for an amount not to exceed \$50,000.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

TASK ORDER AGREEMENT FOR PROFESSIONAL SERVICES

This Agreement is by and between ESG Engineering, Inc. (ESG) and Flowery Branch, Georgia, by and through its City Council (the "City").

ESG's Address: 6400 Peake Road, Macon Georgia 31210

City's Address: 5410 Pine Street, Flowery Branch, GA 30542

Project Name: General Services and Consulting- Water, Wastewater, Storm Water

Project Location: Flowery Branch, GA

ESG Project Number: N/A

The City and ESG are parties to the "Task Order Agreement for Consultant Services (Master Services Agreement)" dated the ____ day of _____, 2022 (the 'Agreement'). The Scope of Services to be performed under this Task Order shall be performed subject to the terms and conditions of said Agreement.

1 SCOPE OF SERVICES

ESG Engineering will perform the following General Scope of Services:

Provide Consulting and Design Engineering Services for Drinking Water, Wastewater, and Storm Water Systems for the city as requested. Specific tasks performed under this scope of work shall be assigned by the City Manager and completed in a timely fashion by the consultant. There is no requirement for the city to utilize the budgeted amount in any given year and the city may extend beyond the amount at their pleasure in any given year.

2 COMPENSATION

The City will compensate ESG Engineering for any assigned or requested tasks on an hourly basis adhering to the rate table established in the Master Services Agreement. ESG will work on assigned or requested tasks on an hourly basis with an agreed upon **Annual Budget of \$50,000**.

Services performed by ESG pursuant to the terms provided below and the terms and conditions of the Master Services Agreement. In the event of a conflict between the provisions of this Task Order and the terms of the Agreement concerning the issue of compensation, the conflict or ambiguities shall be resolved according to the applicable compensation terms of this Task Order.

3 OBLIGATIONS OF THE CITY

In addition to those obligations provided by the terms and conditions of the Agreement, the City shall:

3.1 City-Furnished Data

The city will provide to ESG all data in the City's possession relating to ESG's performance of the Scope of Services regarding the PROJECT. ESG will reasonably rely upon the accuracy, timeliness, and completeness of the information provided by the City.

3.2 Access to Facilities and Property

The city will make its facilities accessible to ESG as required for ESG's performance of the Scope of Services and will provide labor and safety equipment as required by ESG for such access. The city will perform, at no cost to ESG, such tests of equipment, machinery, pipelines, and other components of the City's facilities as may be required in connection with ESG's services.

3.3 Operations Assistance and Services

The City authorizes ESG to operate, modify, inspect and otherwise physically manipulate equipment, furnishings, property and other elements associated with the performance of the Scope of Services. The city authorizes ESG to take such actions in these respects as ESG considers necessary to meet the objectives of the Scope of Services.

3.4 Advertisements, Permits, and Access

The City will obtain, arrange, and pay for all advertisements for bids; permits and licenses required by local, state, or federal authorities; and land, easements, rights-of-way, and access necessary for ESG's services.

3.5 Timely Review

The City will examine ESG's studies, reports, sketches, drawings, specifications, proposals, and other documents; obtain advice of an attorney, insurance counselor, accountant, auditor, bond and financial advisors, and other consultants as the City deems appropriate; and render in writing decisions required by the City in a timely manner.

3.6 Prompt Notice

The city will give prompt written notice to ESG whenever the city observes or becomes aware of any development that affects the scope or timing of ESG's performance, or of any defect in the work of ESG.

3.7 Changes

The city may request changes within the general Scope of Services in this Task Order. If such changes affect ESG's cost of or time required for performance of the services, an equitable adjustment will be made through an amendment to this Task Order. All requested changes will be made in writing and are subject to acceptance by ESG.

4 GENERAL LEGAL PROVISIONS

4.1 Authorization to Proceed

Execution of this Task Order by the City will be authorization for ESG Engineering to proceed with the work, unless otherwise provided for in this Task Order.

4.2 Force Majeure

ESG Engineering is not responsible for damages or delay in performance caused by acts of God, strikes, lockouts, accidents, or other events beyond the control of ESG. In any such event, ESG's contract price and schedule shall be equitably adjusted.

4.3 No Conflict of Interest for Future Work

The services performed by ESG Engineering under this Task Order do not preclude ESG from proposing on or providing such services to the city in the future. Information and knowledge gained by ESG in providing services under this contract shall not constitute a conflict of interest in proposing on or providing additional engineering services, contract operations, contract maintenance, or contract utility management.

4.4 Third Party Beneficiaries and Scope of Services

This Task Order gives no rights or benefits to anyone other than the City and ESG Engineering and has no third-party beneficiaries. The services to be performed for the City by ESG Engineering are defined solely by this Task Order and the terms and conditions of the Agreement.

4.5 Materials and Samples

Any items, substances, materials, or samples removed from the project site for testing, analysis, or other evaluation will be returned to the project site within 60 days of close-out unless agreed to otherwise. Exceptions to this clause are items subjected to destructive testing or samples with nominal intrinsic value, such as samples of liquid, solid or gaseous materials that are non-hazardous. The city recognizes and agrees that ESG Engineering is acting as a Bailee and at no time assumes title to said items, substances, materials, or samples.

4.6 Assignments

Neither party shall have the power to or will assign any of the duties or rights or any claim arising out of or related to this Task Order, whether arising in tort, contract or otherwise, without the written consent of the other party. Any unauthorized assignment is void and unenforceable. These conditions and the entire Task Order are binding on the successors and assigns of the parties hereto.

5 ATTACHMENTS, SCHEDULES, AND SIGNATURES

This Task Order, including its attachments and schedules, and the terms and conditions of the Agreement constitutes the entire agreement between the parties, supersedes all prior written or oral understandings, and may only be changed by a written amendment executed by both parties.

IN WITNESS WHEREOF, the parties execute below:

Approved for Flowery Branch (Print and sign name)

By _____

Name _____

Title _____

Date _____

Approved for ESG (Print and sign name)

By _____

Name Arthur (Trey) Gavin

Title Senior VP and Partner

Date 8/17/18



FLOWERY BRANCH CITY COUNCIL



EXECUTIVE SUMMARY

SUBJECT: Approval of Change Order for Martin Elementary School Wastewater Line Rehabilitation Project to the Dickerson Group, Inc.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The City of Flowery Branch maintains its wastewater lines regularly. At the council meeting on June 16, 2022, an item (change order) was brought forward for the Martin Elementary wastewater line rehabilitation project with an amount not to exceed \$137,022.50. This was due to the discovery that the lines were in worse condition when anticipated when the work began. The contractor gave us estimates based on work they were anticipating with them not knowing yet whether there was a casing under Martin Road. There was not casing so a jack and bore under Martin Road with 16" casing was necessary.

FACTS AND ISSUES:

The contractor, The Dickerson Group, Inc., sent the change order and it is for \$143,163. This is higher than the original "not to exceed" amount because there were two manholes planned at 10ft deep and they are actually at 19-20ft deep. This change order is \$6,140.50 more than previously authorized by council on June 16, 2022. Funding for the project is available in SPLOST VII.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$143,163 provided by SPLOST VII

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the change order attached for the Dickerson Group, Inc. for the Martin Elementary School wastewater line rehabilitation in the amount of \$143,163 to be provided by SPLOST VII.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary Approval of Change Order for Martin ES Wastewater Line Rehabilitation Project to the Dickerson Group, Inc..pdf](#)
- [20220628_062529.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Approval of Change Order for Martin Elementary School wastewater line rehabilitation project to the Dickerson Group, Inc..

DATE: July 21, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- \$143,163 (SPLOST VII)

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing a change order with Dickerson Group for the Martin Elementary School wastewater line rehabilitation project.

HISTORY: The City of Flowery Branch maintains its wastewater lines regularly. At the council meeting on June 16, 2022, an item (change order) was brought forward for the Martin Elementary wastewater line rehabilitation project with an amount not to exceed \$137,022.50. This was due to the discovery that the lines were in worse condition when anticipated when the work began. The contractor gave us estimates based on work they were anticipating with them not knowing yet whether there was a casing under Martin Road. There was not casing so a jack and bore under Martin Road with 16" casing was necessary.

FACTS AND ISSUES: The contractor, The Dickerson Group, Inc., sent the change order and it is for \$143,163. This is higher than the original "not to exceed" amount because there were two manholes planned at 10ft deep and they are actually at 19-20ft deep. This change order is \$6,140.50 more than previously authorized by council on June 16, 2022. Funding for the project is available in SPLOST VII.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the change order attached for the Dickerson Group, Inc. for the Martin Elementary School wastewater line rehabilitation in the amount of \$143,163 to be provided by SPLOST VII.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

The Dickerson Group Inc.
Change Order Request
Martin Elem.

Phase 2

1	Contractor field measure manholes & submit for fabrication	EA	3	\$ 1,500.00	\$ 4,500.00
2	8" PVC SDR 35 - 12'-15 deep	LF	436	\$ 115.00	\$ 50,140.00
3	Provide and install complete manhole systems based on 10 vf per manhole	EA	1	\$ 5,250.00	\$ 5,250.00
4	New Manhole greater than 15ft	EA	3	\$ 7,500.00	\$ 22,500.00
5	Additional VF for MH #5 & #4 (19 VF Deep)	EA	2	\$ 5,250.00	\$ 10,500.00
6	Driveway Removal/Replacement	SY	100	\$ 125.00	\$ 12,500.00
7	SOD	SY	444	\$ 17.00	\$ 7,548.00
8	Minor Clearing and 2 tree removals incl stumps	LS	1	\$ 6,000.00	\$ 6,000.00
9	Matting Installation	SY	150	\$ 7.50	\$ 1,125.00
10	Throat and top replacement	LS	1	\$ 4,500.00	\$ 4,500.00
11	Fence Removal and Replacement	LF	80	\$ 20.00	\$ 1,600.00
12	Traffic Control	LS	1	\$ 5,000.00	\$ 5,000.00
13	Testing	LS	1	\$ 3,000.00	\$ 3,000.00
14	Casing Pipe removal and reinsertion	LF	60	\$ 125.00	\$ 7,500.00
15	Striping	LS	1	\$ 1,500.00	\$ 1,500.00
				\$ 143,163.00	



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: First Amendment to the Development Agreement with Flowery Branch Apartments Owner, LLC for Improvements to the City's Sewer System.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Although Flowery Branch Apartments Owner, LLC has secured sewer capacity from the city, the necessary land development permits, an easement from the Board of Education to connect, and has made an approved connection to the city sewerage system, the City reserved the right to require additional items, should they be necessary, within 90 days of certification of completeness of the "Connection Project". This amendment to the original development agreement memorializes additional requests associated with the "Connection Project" by the city to the developer.

FACTS AND ISSUES:

After Flowery Branch Apartments Owner, LLC obtained the necessary sewer capacity, development permits and easements to connect to the city's sewer system via C.W. Davis lift station, it was discovered that the manhole to which it was to connect discharges into a gravity flow pipe entering the pump station wet well near the bottom. Because of this low entry point, it was thought that the capacity of the lift station is not at its maximum and adding additional flow could create issues for the city's system within the subject sewer shed unless improvements are made. The city's consulting engineer completed a sewer evaluation concerning said improvements and determined that raising two manholes adjacent to the existing lift station would provide the necessary capacity needed to accommodate flows from the new apartments. The attached amendment to the development agreement memorializes that the manholes will be raised by Flowery Branch Apartments Owner, LLC under the direction of the city engineer and other city staff to provide improvement and the needed capacity.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the amendment to the development agreement with Flowery Branch Apartments, LLC for improvements to the city's sewer system.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary - Amendment to Development Agreement with Flowery Branch Apartments Owner, LLC.pdf](#)
- [First Amendment - Sewer Development Agreement.pdf](#)
- [Raised Manholes Exhibit.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: First Amemdment to the Development agreement with Flowery Branch Apartments Owner, LLC for improvements to the city's sewer system.

DATE: July 21, 2022

BUDGET INFORMATION:

ANNUAL- No change
CAPITAL- No change

(X) RECOMMENDATION

() POLICY DISCUSSION

() STATUS REPORT

() OTHER

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing an amendment to the development agreement with Flowery Branch Apartments Owner, LLC for improvements to the city's sewer system, allowing them to access the sewer system, and provide for future improvements to the sewer system.

HISTORY: Although Flowery Branch Apartments Owner, LLC has secured sewer capacity from the city, the necessary land development permits, an easement from the Board of Education to connect, and has made an approved connection to the city sewerage system, the City reserved the right to require additional items, should they be necessary, within 90 days of certiifcaiton of completeness of the "Connection Project". This amemdment to the original development agreement memorializes additional requests associated with the "Connection Project" by the city to the developer.

FACTS AND ISSUES: After Flowery Branch Apartments Owner, LLC obtained the necessary sewer capacity, development permits and easements to connect to the city's sewer system via C.W. Davis lift station, it was discovered that the manhole to which it was to connect discharges into a gravity flow pipe entering the pump station wet well near the bottom. Because of this low entry point, it was thought that the capacity of the lift station is not at its maximum and adding additional flow could create issues for the city's system within the subject sewer shed unless improvements are made. The city's consulting engineer completed a sewer evaluation concerning said improvements and determined that raising two manholes adjacent to the existing lift station would provide the necessary capacity needed to accommodate flows from the new apartments. The attached amendment to the development agreement memorializes that the manholes will be raised by Flowery Branch Apartments Owner, LLC under the direction of the city engineer and other city staff to provide improvement and the needed capacity.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the amendment to the development agreement with Flowery Branch Apartments, LLC for improvements to the city's sewer system.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish

Cross Reference: DB 9087 P 613 – 656

**UPON RECORDING RETURN TO:
Troutman Pepper Hamilton Sanders, LLP
600 Peachtree Street, N.E.
Suite 3000
Atlanta, Georgia 30308
Attn: David C. Kirk**

STATE OF GEORGIA

COUNTY OF HALL

**FIRST AMENDMENT TO THE AGREEMENT
BY AND BETWEEN FLOWERY BRANCH APARTMENTS OWNER, LLC
AND THE CITY OF FLOWERY BRANCH, GEORGIA
FOR ACCESS TO AND MAINTENANCE OF THE SANITARY SEWER SYSTEM**

THIS FIRST AMENDMENT TO THE AGREEMENT (AMENDMENT), is made and entered into effective the ____ day of June 2022, by and between Flowery Branch Apartments Owners, LLC, a Delaware limited liability company, located at 8210 Creedmoor Road, Suite 103, Raleigh, North Carolina 27613, (“DEVELOPER”) and the City of Flowery Branch, Georgia, a Georgia municipal corporation, located at 5410 Pine Street, Flowery Branch, Georgia 30542 (“CITY”).

WHEREAS, DEVELOPER and CITY entered into that certain agreement dated March 22, 2022, 2015 (“ORIGINAL AGREEMENT”) for access to and maintenance of the sanitary sewer system; and

WHEREAS, DEVELOPER and CITY desire to amend the ORIGINAL AGREEMENT, on and subject to the terms and conditions set forth herein.

NOW, THEREFORE, DEVELOPER and CITY agree to amend the ORIGINAL AGREEMENT as follows:

1. Recitals. Each of the foregoing recitals and representations in this Amendment form a material part of this AMENDMENT and are incorporated herein by this reference, and such recitals and representations and the ORIGINAL AGREEMENT are hereby ratified.
2. Paragraph XI. Paragraph XI of the ORIGINAL AGREEMENT is deleted in its entirety and replaced by the following:

“XI. Within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY’s sewer system as described in Paragraph VI of this AGREEMENT, the CITY shall have the right to direct DEVELOPER in writing to install ten (10) foot extensions to raise the height, at DEVELOPER’S expense, of the two manholes shown within the red box on Exhibit E, which is attached hereto and incorporated by reference herein. Upon receipt of such written direction from the CITY, DEVELOPER shall have an additional ninety (90) days to construct/install the manhole extensions, at which time DEVELOPER shall be relieved of any obligations contained in Paragraphs XI and X of this AGREEMENT. Should CITY not exercise its right under this Paragraph XI within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY’s sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER shall have no obligation to raise said manholes.”

EXCEPT AS HEREIN PROVIDED, all other terms and conditions of the ORIGINAL AGREEMENT shall remain the same and the parties hereto do hereby ratify the ORIGINAL AGREEMENT.

IN WITNESS WHEREOF, DEVELOPER and CITY have carefully read and reviewed this AMENDMENT and each term and provision contained herein, and by the execution of this AMENDMENT shows their informed and voluntary consent thereto.

THIS _____ DAY OF JUNE, 2022.

FLOWERY BANCH APARTMENTS OWNER, LLC,
by FLOWERY BRANCH VENTURE, LLP, a
Delaware limited liability partnership and sole manager
of FLOWERY BRANCH APARTMENTS OWNER,
LLC

By: Patrick J. Kassin
Title: _____

Sworn to and subscribed before me
this _____ day of June, 2022.

NOTARY PUBLIC

My commission expires: _____

Signatures Continued Next Page

CITY OF FLOWERY BRANCH, GEORGIA

By: Edward R. Asbridge, Mayor

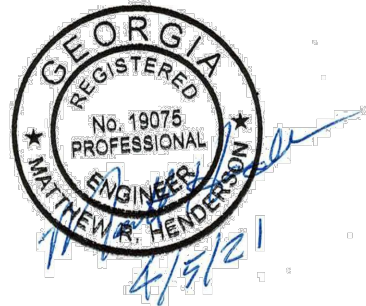
ATTEST:

Shelia Cooper, City Clerk

EXHIBIT E



HENDERSON ENGINEERING
147 TIMBER OAK LANE
DAHLONEGA, GEORGIA 30533
T: 706.864.7252
M: 770.401.6197



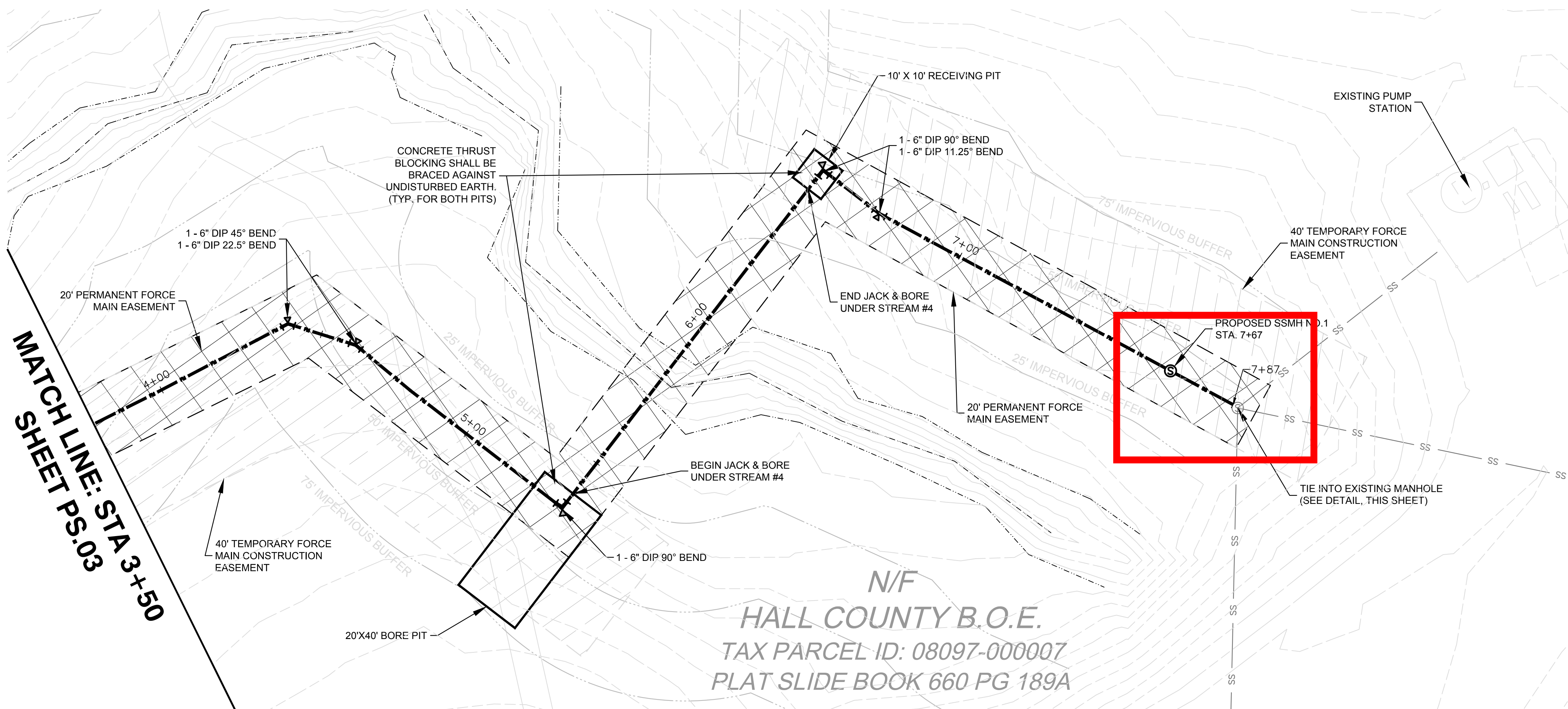
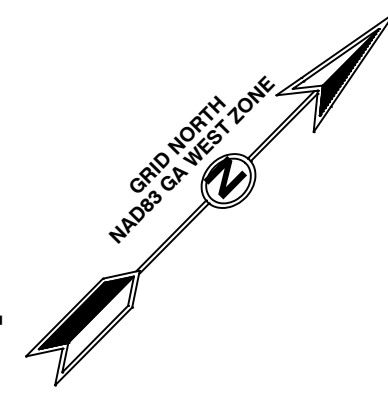
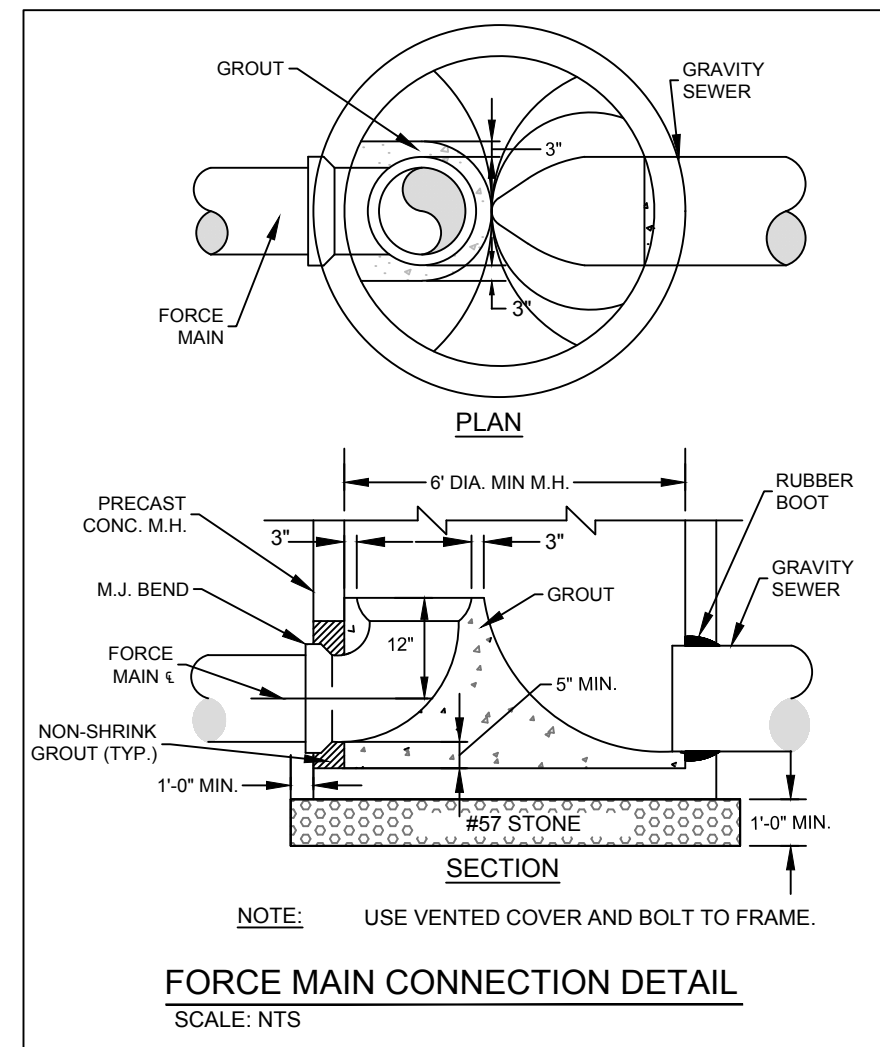
REVISION	DATE	DESCRIPTION
1	04-05-21	PERMITTING SET
	04-26-21	BID READY SET

FORCE MAIN PLAN & PROFILE
HOG MOUNTAIN PUMP STATION
& FORCE MAIN
CITY OF FLOWERY BRANCH
HALL COUNTY, GEORGIA

DRAWN BY: Ach
DESIGNED BY: MRH
DATE: 04-05-21
CHECKED BY: MRH

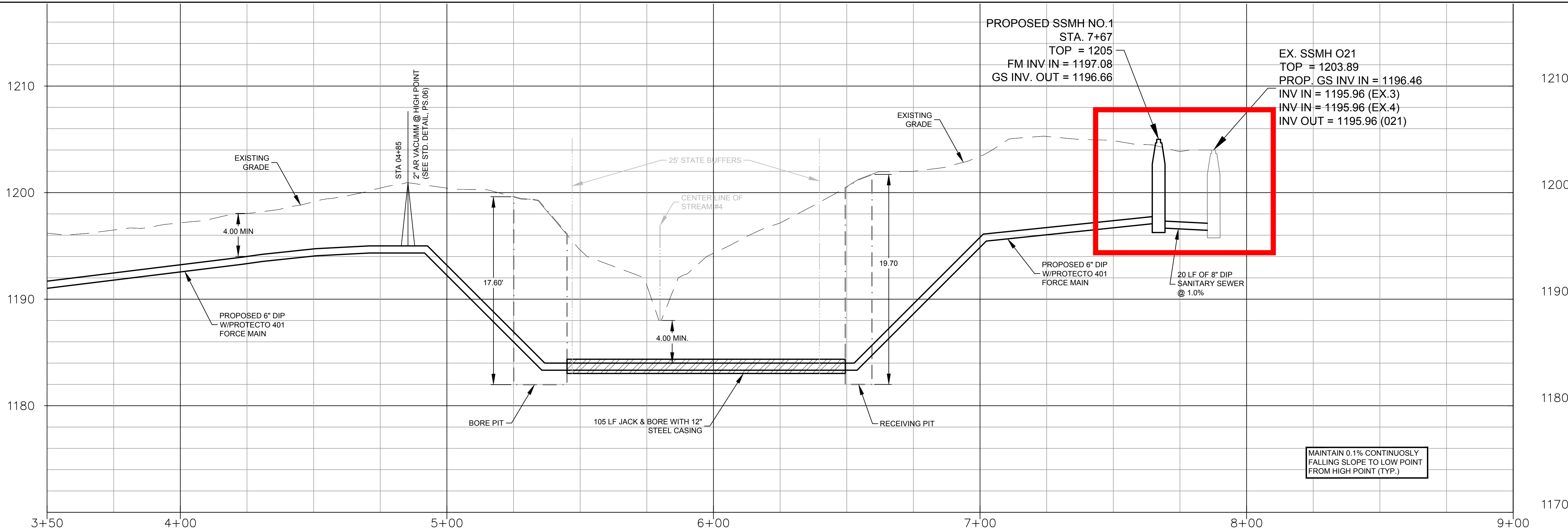
SHEET NO.
PS.04
PROJECT NO.
HE2021-16

LEGEND	
-O-	UTILITY POLE (UP)
NG	NATURAL GAS
DI	DROP INLET
JB	JUNCTION BOX
OCS	OUTLET CONTROL STRUCTURE
SWCB	SINGLE WING CATCH BASIN
HW	HEADWALL
RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE
HDPE	HIGH DENSITY POLYETHYLENE
UGD	UNDERGROUND DETENTION
DWCB	DOUBLE WING CATCH BASIN
EX	EXISTING
PROP.	PROPOSED
W.E.	WATER EASEMENT
PH	FIRE HYDRANT
WM	WATER METER
S.S.E.	SANITARY SEWER EASEMENT
LF	LINEAR FEET
DIP	DUCTILE IRON PIPE
PVC	POLYVINYL CHLORIDE
SS	SANITARY SEWER
C&G	CURB AND GUTTER
IP	IRON PIN
IPF	IRON PIN FOUND
P/L	PROPERTY LINE
F.E.S.S.	FLARED END SAFETY SECTION
SSMH	SANITARY SEWER MANHOLE
SSCO	SANITARY SEWER CLEANOUT
PT	POINT OF TANGENT
PC	POINT OF CURVATURE
OCS	OUTLET CONTROL STRUCTURE
ELEV	ELEVATION
N/F	NOW OR FORMERLY
R/W	RIGHT OF WAY
LLL	LAND LOT LINE
CONC	CONCRETE
INV	INVERT
EOP	EDGE OF PAVEMENT
TYP.	TYPICAL
BOV	BLOW OFF VALVE
GV	GATE VALVE



PLAN VIEW

Scale: 1" = 20'



PROFILE

Horizontal Scale: 1" = 20'

Vertical Scale: 1" = 10'

IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FUTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

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FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider Approving the Folksong Escrow Agreement

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Woodfield has completed all of its obligatory processes required by the City of Flowery Branch concerning the apartment complex. Part of the process was to deposit \$150,000 into an escrow account.

FACTS AND ISSUES:

Woodfield's buyer, Folksong's title company requires this executed document as a part of the sale and escrowed funds.

OPTIONS:

Approve or Deny

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

No

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

SAMPLE MOTION:

I make a motion to approve the Folksong Escrow Agreement.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Folksong Escrow Agreement.pdf](#)
- [Executive Summary - Escrow Agreement Folksong-Woodfield.pdf](#)



First American Title Ins. Co.
1380 17th St., 500
Denver, CO 80202

ESCROW AGREEMENT

File # NCS-1123415-CO

THIS ESCROW AGREEMENT (this “Agreement”) is made this ____ day of July, 2022 (the “Effective Date”) by and among First American Title Insurance Company (“Escrow Agent”), City of Flowery Branch, Georgia, a Georgia municipal corporation (the “City”), and Flowery Branch Apartments Owner, LLC, a Delaware limited liability company (“Developer”).

RECITALS:

A. WHEREAS, the City and Developer entered into that certain Agreement dated March 22, 2022, recorded in Deed Book 9087, Pages 613-656 of the Hall County, Georgia records (the “Original Sewer Agreement”), as amended that certain First Amendment to the Agreement dated and recorded on or about the date hereof (the “First Amendment”, and together with the Original Sewer Agreement, the “Sewer Agreement”).

B. WHEREAS, pursuant to Section VIII of the Original Sewer Agreement, the City and Developer have agreed that Developer will deposit an amount equal to One Hundred Fifty Thousand and 00/100 Dollars \$150,000.00 into escrow to be disbursed to the City in accordance with the terms hereof (the “Escrowed Funds”).

C. WHEREAS, Developer and the City desire to appoint Escrow Agent as the escrow agent pursuant to this Agreement, and Escrow Agent is willing to act as the escrow agent hereunder.

NOW THEREFORE, in consideration of the covenants and agreements contained in this Agreement, and intending to be legally bound, the parties hereto agree as follows:

1. Escrow Agent is authorized to hold the Escrowed Funds in a segregated deposit account. The segregated deposit account shall not be an interest-bearing deposit account.

2. Pursuant to Section XIV of the Original Sewer Agreement, within ten (10) business days of the issuance of the final certificate of occupancy for the DEVELOPMENT (as such term is defined in the Original Sewer Agreement), Developer will direct Escrow Agent to disburse the Escrowed Funds to the City. Notwithstanding the foregoing, City and the Developer may direct Escrow Agent to disburse the Escrowed Funds in accordance with instructions jointly executed by both City and Developer, in which event, Escrow Agent shall disburse the Escrowed Funds in accordance with such instructions. Upon Escrow Agent’s disbursement of the Escrowed Funds in accordance with this Agreement, Escrow Agent shall be relieved of any further responsibility or liability in connection with this Agreement or the Escrowed Funds, and this Agreement shall terminate and be of no further force and effect.

3. Developer agrees to pay Escrow Agent any and all fees incurred pursuant to this Agreement or with respect to the administration of the Escrowed Funds.

4. All notices, demands, requests, consents, approvals and other communications (each a "Notice," collectively "Notices") required or permitted to be given under this Agreement, or which are to be given with respect to this Agreement, shall be in writing and shall be (i) personally delivered, (ii) delivered by United States Mail, postage prepaid, registered or certified mail, return receipt requested, or (iii) delivered by reputable overnight delivery service with proof of delivery, addressed to the party as designated below, provided that in EACH CASE, a concurrent copy of such notice shall be sent by electronic mail to the addresses as follows:

If intended to Developer, to:

c/o Woodfield Investment Company, LLC
Attn: Patrick Kassin
8210 Creedmoor Road
Suite 102
Raleigh, North Carolina 27613
Email: patrick@woodfielddevelopment.net

and

c/o Woodfield Investment Company, LLC
536 Ellsworth Road
Charlotte, North Carolina 28211
Attn: David Jones
Email: djones@woodfielddevelopment.net

With a copy to:

Troutman Pepper Hamilton Sanders LLP
301 South College Street, Suite 3400
Charlotte, North Carolina 28202
Attn: Stephanie Greer Fulcher, Esq.
Email: stephanie.greerfulcher@troutman.com

If intended to the City, to:

City Manager
City of Flowery Branch
Attn: Tonya Parrish
5410 Pine Street
Flowery Branch, Georgia 30542
Email: tonya@flowerybranchga.org

With a copy to:

E. Ronald Bennett, Jr., Esq.
Carothers & Mitchell, LLC
1809 Buford Highway
Buford, Georgia 30518

Email: ron.bennett@carmitch.com

If intended to Escrow Agent:

First American Title Ins. Co.
Attn: Seth Holley
1380 17th Street, Suite 500
Denver, CO 80202
Phone: (303) 876-1112
Email: seholley@firstam.com

5. Developer and, to the extent allowed by applicable law, the City, agree to hold Escrow Agent harmless, from and against any and all liabilities, losses, damages, expenses and charges, including but not limited to, attorney's fees and expenses of litigation, including those necessary to enforce this indemnification paragraph, which may be sustained or incurred by Escrow Agent and its agents under, or arising directly or indirectly out of such any claim, action, proceeding, or judgment arising from Escrowed Funds. In the event of a dispute between the parties to this Agreement, Escrow Agent shall be permitted in its sole discretion: (a) not to act unless pursuant to an order of a court, or (b) to file a complaint in interpleader and deposit the Escrowed Funds with a court of competent jurisdiction, less all out-of-pocket fees and expenses incurred by Escrow Agent, including attorneys' fees. Upon so acting under 5(a) or (b), Escrow Agent shall be released and forever discharged of all liability under the terms of this Agreement or with respect to the Escrowed Funds.

6. Escrow Agent shall not be personally liable for any act it may do or omit to do hereunder as such agent, while acting in good faith and in the exercise of its own best judgment, and any act done or omitted by it pursuant to the advice of its own attorneys shall be conclusive evidence of such good faith. Escrow Agent shall not be under any duty or obligation to ascertain the identity, authority or rights of the parties executing or delivering or purporting to execute or deliver these instructions or any documents or papers or payments deposited or called for hereunder, and assumes no responsibility or liability for the validity or sufficiency of these instructions or any documents or papers or payments deposited or called for hereunder.

7. The Agreement may be supplemented, altered, amended, modified or revoked by writing only, signed by all of the parties hereto.

8. This Agreement may be executed in two or more counterparts and all counterparts so executed shall for all purposes constitute one agreement, binding on all the parties hereto, notwithstanding that all parties shall not have executed the same counterpart. The parties agree that this Agreement may be electronically signed. The parties agree that any electronic signatures appearing on this Agreement are the same as handwritten signatures for the purposes of validity, enforceability and admissibility. Any PDF or facsimile transmittal of electronically signed versions of this Agreement shall be considered to have the same legal effect as execution and delivery of the original document and shall be treated in all manner and respects as an original document.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

[SIGNATURE PAGES FOLLOW]

SIGNATURE PAGE TO ESCROW AGREEMENT

**FIRST AMERICAN TITLE INSURANCE
COMPANY**

By: _____
Name: _____
Title: _____

[Signatures Continued on Following Page]

SIGNATURE PAGE TO ESCROW AGREEMENT

CITY OF FLOWERY BRANCH, GEORGIA

By: _____
Edward R. Asbridge, Mayor

[Signatures Continued on Following Page]

SIGNATURE PAGE TO ESCROW AGREEMENT

FLOWERY BRANCH APARTMENTS OWNER, LLC,
a Delaware limited liability company

By: Flowery Branch Venture LLP,
a Delaware limited liability partnership,
its Sole Member

By: WF Flowery Branch, LLC,
a Delaware limited liability company,
its Administrative Partner

By: _____
Name: Patrick Kassin
Title: Vice President

**FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY**

SUBJECT: Folksong Escrow Agreement

DATE: July 21, 2022

(X) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- No Change

() OTHER

CAPITAL- No change

COUNCIL ACTION REQUESTED ON: July 21, 2022

PURPOSE: Authorizing the escrow agreement for Folksong (previously Woodfield) governing the \$150,000 escrowed funds for future improvements to the wastewater system.

HISTORY: Woodfield has completed all of its obligatory processes required by the City of Flowery Branch concerning the apartment complex. Part of that process was to deposit \$150,000 into an escrow account.

FACTS AND ISSUES: Woodfield's buyer, Folksong's title company requires this executed document as a part of the sale and escrowed funds.

OPTIONS: Approve or Deny

RECOMMENDED SAMPLE MOTION: I make a motion to approve the Folksong Escrow Agreement.

DEPARTMENT: Administration

Prepared by: Tonya D. Parrish



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Consider Approving an Estoppel Agreement in connection with the sale of the Woodfield Apartment Complex Development.

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Flowerly Branch Apartments Owner, LLC (“Woodfield”) is currently developing an apartment complex located on a portion of 4496 Hog Mountain Road per the land use authorized by Ordinance No. 582, which is attached. Condition No. 6 of this rezoning ordinance required Woodfield to execute and provide the City with a Uniform Deed of Conservation and Trail Easement covering the back part of the subject parcel along I-985. As a condition to connect to sewer, Woodfield also entered into the attached sewer development agreement and amendment.

FACTS AND ISSUES:

FACTS AND ISSUES: Woodfield has notified the City that it intends to sell its apartment complex development to Starlight Investments Acquisition, LLC (“Folksong”). As part of its due diligence, Folksong is requesting the City agree that Woodfield has to date complied with conservation and trail easement rezoning condition and certain terms of the sewer development agreement by approving and signing the attached Estoppel Agreement. An estoppel agreement such as this is common in real estate transactions. Its purpose is for a third party (City) to confirm to the buyer (Folksong) that the seller’s representations (Woodfield) are true.

The rezoning condition has been met as shown by the attached recorded Uniform Deed of Conservation and Trail Easement.

The Estoppel Agreement asks the City to agree to the following:

- a. The construction by the Existing Owner of the Connection Project has been completed in full accordance and satisfaction with the Sewer Agreement;
- b. The City issued the certification of completeness of the Connection Project on July 15, 2022, and accordingly, Section VIII of the Sewer Agreement requires the Existing Owner to escrow the Developer’s Escrow Contribution in accordance with the terms and provisions thereof on or before July 29, 2022;
- c. The Existing Owner has provided the City with all of the necessary Design Documents, as and when required under the Sewer Agreement; and
- d. The Existing Owner has paid all sums of the Developer’s Cash Contribution to the City, as and when required under the Sewer Agreement.

Per the City Manager and/or City Water and Sewer Engineer, these four events have occurred.

Given that Woodfield and/or the City have signed and recorded a Uniform Deed of Conservation and Trail Easement as well as complied with the particular provisions of the sewer development agreement identified in the Estoppel Agreement, staff recommends the city council approve the Estoppel Agreement.

OPTIONS:

As all obligations as outlined in the Estoppel Agreement have been met, approve the Estoppel Agreement as presented.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

RECOMMENDATION:

Approve the estoppel as presented.

SAMPLE MOTION:

I make a motion to approve the Estoppel Agreement regarding the Woodfield apartment complex sale as presented.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Woodfield Rezoning Ordinance.pdf](#)
- [Woodfield Sewer Development Agreement.pdf](#)
- [Trail Easement Book09113Page0627.pdf](#)
- [Executive Summary - Woodfield Estoppel Agreement ERB Rev - final.pdf](#)
- [Raised_Manholes_Exhibit.pdf](#)
- [First_Amendment_-_Sewer_Development_Agreement.pdf](#)
- [Starlight \(Folksong\) - City Agreement Estoppel 4894-9613-5967_3.pdf](#)

Public Hearing Published 5/30/19
Public Hearing 8/15/19

First Reading 8/15/19
Adopted 9/19/19

ORDINANCE NO. 582

AN ORDINANCE AMENDING THE ZONING MAP OF THE CITY OF FLOWERY BRANCH, GEORGIA, BY REZONING 32.5 +/- ACRES OF LAND OWNED BY FLOWERY BRANCH LAND, LLC. COMMONLY KNOWN AS 4496 HOG MOUNTAIN ROAD AND IDENTIFIED AS TAX PARCEL 08097000001A, AS SHOWN ON ATTACHED EXHIBIT "A", AS DESCRIBED ON ATTACHED EXHIBIT "B", BY REZONING SAID TRACT OF LAND FROM A (AGRICULTURAL) TO R-3 (MULTI-FAMILY RESIDENTIAL) AND HB (HIGHWAY BUSINESS) SUBJECT TO THE CONDITIONS SET FORTH IN ATTACHED EXHIBIT "C"; PROVIDING FOR SEVERABILITY, REPEALING CONFLICTING ORDINANCES, PROVIDING FOR AN EFFECTIVE DATE AND FOR ALL OTHER LAWFUL PURPOSES.

WHEREAS, Flowery Branch Land, LLC., owns all that tract or parcel of land being considered for rezoning totaling 32.5 +/- acres identified as Parcel Tax Identification No. 08097000001A, as shown on Exhibit "A", and as described on Exhibit "B"; and

WHEREAS, the City Council of the City of Flowery Branch has considered the application as submitted by Planners and Engineers Collaborative, Inc., and in conjunction with the standards set forth in Article 34 - Section 34.7 of Zoning Ordinance No. 348 of the City of Flowery Branch, Georgia; and

WHEREAS, Planners and Engineers Collaborative, Inc., has submitted to the City Council of Flowery Branch, Georgia, a written and signed application requesting to be rezoned and whereas a survey and complete description of the land to be rezoned is included in the application; and

WHEREAS, the City Council held a public hearing at the meeting of August 15th, 2019, duly noticed as prescribed by law and published in the Gainesville Times, regarding said application, as shall be set forth in the minutes of said meeting.

NOW THEREFORE, THE COUNCIL OF THE CITY OF FLOWERY BRANCH HEREBY ORDAINS AS FOLLOWS:

SECTION 1. FINDINGS:

The City Council finds that the proposed rezoning of the parcel from Flowery Branch A (Agricultural) to Flowery Branch M-3 (Residential Multi-Family) and HB (Highway Business) is consistent with the adopted standards for governing the exercise of the zoning power consistent with O.C.G.A. § 36-66-5 and requirements of the Zoning Ordinance as identified below.

1. The proposal will permit a use that is suitable in view of the use and development of adjacent and nearby property.

2. The proposal is not expected to adversely affect the existing use or usability of adjacent or nearby property.
3. The property could be used in accordance with the existing regulations and has a reasonable economic use as currently zoned A.
4. The development if approved and constructed is not expected to result in a use which will or could cause an excessive or burdensome use of existing streets, transportation facilities, utilities, or schools.
5. The proposal is in conformity with the policy and intent of the comprehensive plan including the character area map and future land use plan map.
6. The proposal is considered appropriate in view of existing use(s) and zoning of the subject property and nearby properties.
7. No determination has been made by staff with regard to the value differential between development under the current zonings as opposed to proposed.
8. A proposed development will not be a deterrent to the value or improvement of development of adjacent property in accordance with existing regulations.
9. There are no known adverse effects that would result from the change in zoning district map, or change in use, on the character of a zoning district.
10. Development as proposed is not expected to impact on the environment, including but not limited to, drainage, soil erosion and sedimentation, flooding, air quality and water quality. Compliance with city subdivision and land development regulations will be required, which include but are not limited to soil erosion and sedimentation, stormwater, and flood damage prevention.

SECTION 2. LEGAL DESCRIPTION:

The rezoning of the subject parcel, as shown on Exhibit "A" and as legally described in Exhibit "B", from A (Agricultural) to M-3 (Multi-Family Residential) and HB (Highway Business). Said Exhibits are incorporated.

SECTION 3. AMENDMENT OF THE ZONING MAP:

This Ordinance is enacted as an amendment to the Zoning Map of Flowery Branch, Georgia. Accordingly, the Zoning Administrator is hereby authorized to update the Official Map consistent with Article 3 of the Zoning Ordinance.

SECTION 4. SEVERABILITY:

Should any section or provision of this Ordinance be declared invalid or unconstitutional by any court of competent jurisdiction, such declaration shall not affect the validity of this Ordinance as a whole or any part thereof which is not specifically declared to be invalid or unconstitutional.

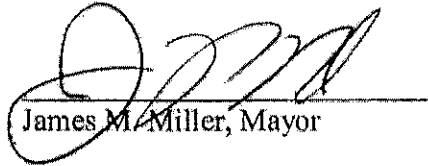
SECTION 5. EFFECTIVE DATE:

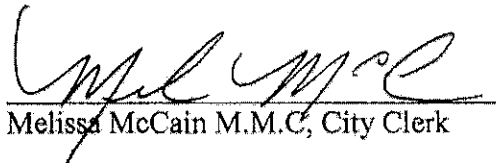
The effective date of this Ordinance shall be September 19, 2019.

SECTION 6. REPEALER:

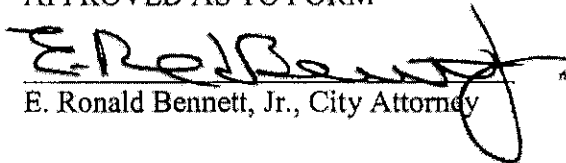
All ordinances and parts of ordinances in conflict herewith are hereby repealed to the extent of the conflict.

Approved this 19th day of September 2019.


James M. Miller, Mayor


Melissa McCain M.M.C., City Clerk

APPROVED AS TO FORM


E. Ronald Bennett, Jr., City Attorney

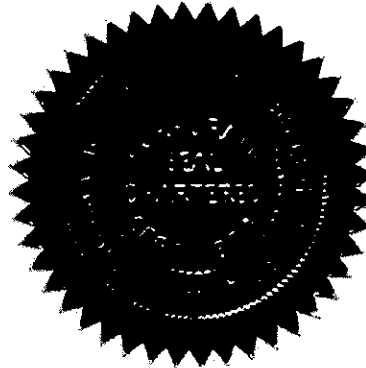


Exhibit "A"

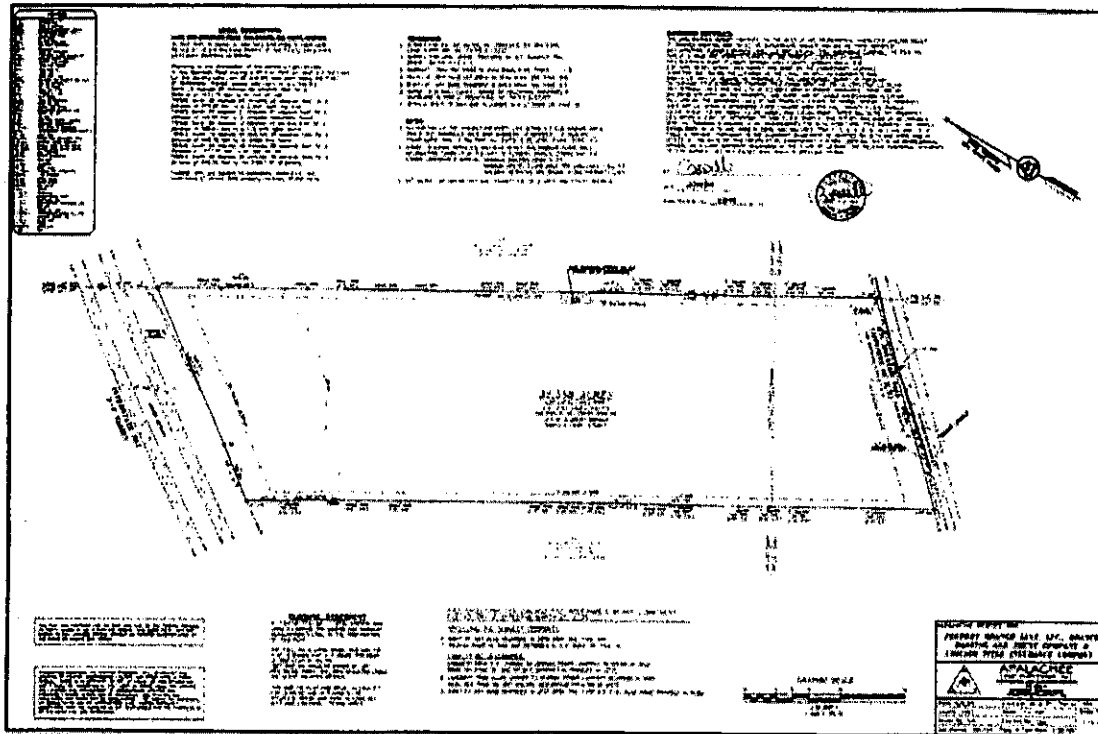


Exhibit "B"

Legal Description – PROPOSED HB (HIGHWAY BUSINESS) COMMERCIAL TRACT

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 96 of the 8th District, Hall County, Georgia and being more particularly described as follows:

To find the TRUE POINT OF BEGINNING, commence at an iron pin found at the intersection of the westerly right-of-way line of Hog Mountain Road and the Land Lot Line common to Land Lots 94 & 96; thence along said westerly right-of-way line of Hog Mountain Road the following courses and distances: South 15 degrees 44 minutes 25 seconds East a distance of 56.51 feet to a point and the TRUE POINT OF BEGINNING, from the TRUE POINT OF BEGINNING as thus established; thence continue Southerly along said line, a distance of 386.15 feet to a point; thence leaving said right-of-way line, South 62 degrees 30 minutes 6 seconds West a distance of 302.38 feet to a point; thence North 16 degrees 11 minutes 29 seconds West a distance of 445.42 feet to a point; thence North 73 degrees 48 minutes 31 seconds East a distance of 299.56 feet to a point and the TRUE POINT OF BEGINNING.

Said tract containing 2.84 acres more or less.

Legal Description – PROPOSED R-3 RESIDENTIAL TRACT

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lots 96 & 97 of the 8th District, Hall County, Georgia and being more particularly described as follows:

BEGINNING at an iron pin found at the intersection of the westerly right-of-way line of Hog Mountain Road and the Land Lot Line common to Land Lots 94 & 96; thence along said westerly right-of-way line of Hog Mountain Road South 15 degrees 44 minutes 25 seconds East a distance of 56.51 feet to a point; thence leaving said right-of-way line South 73 degrees 48 minutes 31 seconds West a distance of 299.56 feet to a point; thence South 16 degrees 11 minutes 29 seconds East a distance of 445.42 feet to a point; thence North 62 degrees 30 minutes 6 seconds East a distance of 302.38 feet to a point; thence along said right-of-way line South 15 degrees 44 minutes 25 seconds East a distance of 230.04 feet to a point; thence leaving said right-of-way line North 89 degrees 18 minutes 2 seconds West a distance of 1,872.33 feet to a point; thence South 89 degrees 18 minutes 10 seconds West a distance of 275.00 feet to a point; thence North 22 degrees 19 minutes 50 seconds West a distance of 184.60 feet to a point; thence North 23 degrees 38 minutes 10 seconds West a distance of 526.57 feet to a point; thence South 89 degrees 36 minutes 45 seconds East a distance of 468.38 feet to a point; thence South 89 degrees 17 minutes 25 seconds East a distance of 1,777.70 feet to a point and the TRUE POINT OF BEGINNING.

Said tract containing 29.71 acres more or less.

Legal Description - OVERALL.

14496 Hog Mountain Road, Tax Parcel NO. 08097 000001A

All that tract or parcel of land lying and being in Land Lots 96 and 97 of the 8th Land District of Hall County being more particularly described as follows:

Beginning at the intersection of the northerly right-of-way of Hof Mountain Road (having a 80 foot right-of-way) and the Land Lot line dividing Land Lot 96 and 93, said point being the POINT OF BEGINNING; THENCE leaving said right-of-way heading North 29 degrees 26 minutes 42 seconds West for a distance of 1872.33 feet to an iron pin set;

THENCE North 30 degrees 50 minutes 30 seconds West for a distance of 275.00 feet to a 3 inch open top pipe;

THENCE North 37 degrees 31 minutes 30 seconds East for a distance of 184.60 feet to a concrete monument found;

THENCE North 36 degrees 13 minutes 10 seconds East for a distance of 526.57 feet to a ½ inch rebar found;

THENCE South 29 degrees 45 minutes 25 seconds East for a distance of 468.38 feet to an angle iron found;

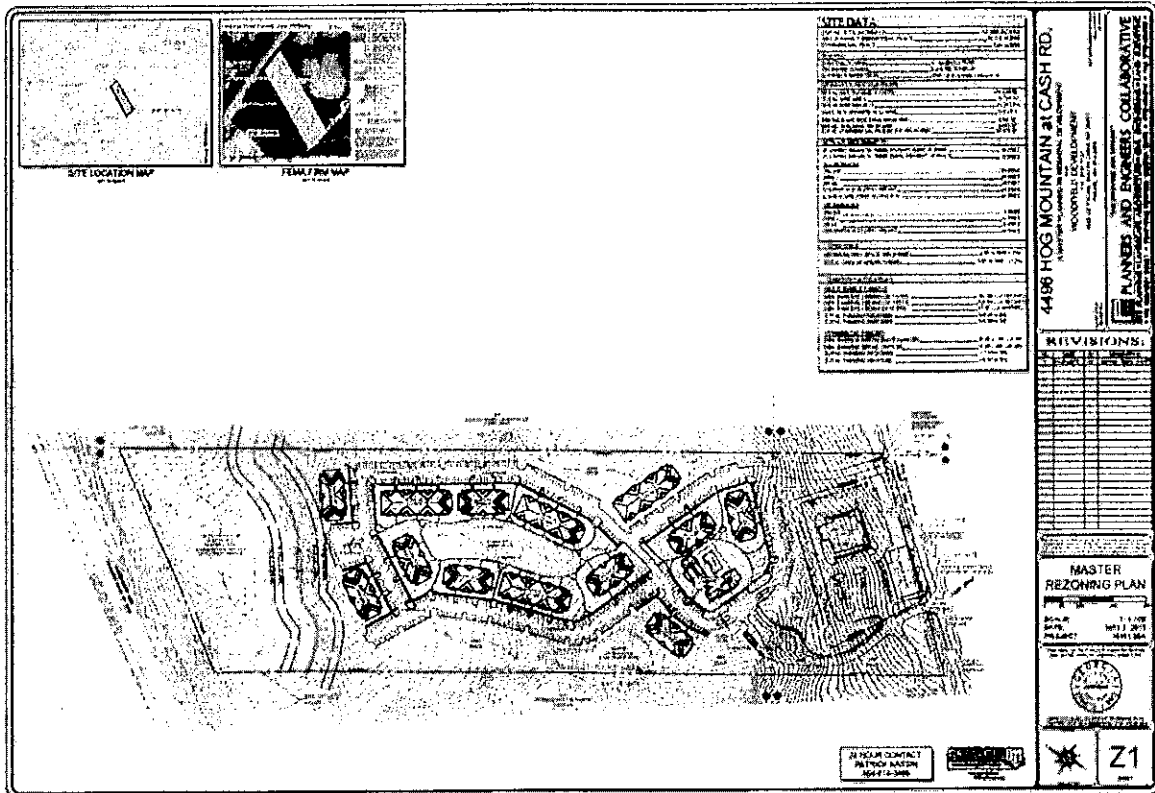
THENCE South 29 degrees 26 minutes 05 seconds East for a distance of 1777.70 feet to an iron pin set;

THENCE South 44 degrees 06 minutes 55 seconds West for a distance of 672.70 feet to the POINT OF BEGINNING.

Together with and subject to covenants, easements, and restrictions of record. Said property contains 32.558 acres.

Exhibit "C"
Conditions of Zoning

1. Development shall be generally consistent with the site plan as shown below. Any significant changes to the site plan will require City Council approval.



2. Streets, sidewalks, and all stormwater facilities shall be privately owned and maintained.
3. Overall signage plan shall be submitted and approved by the Department of Community Development.
4. Overall lighting plan shall be submitted and approved by the Department of Community Development.
5. The Developer and City shall enter into the Development Agreement related to certain transportation system improvements.
6. Prior to the issuance of a Building Permit, the Developer shall execute and provide to the City for its execution the City of Flowery Branch Uniform Deed of Conservation and Trail Easement in substantially the same form as the attached. Upon the City's execution of the Easement, the Developer shall record the Easement and provide the City with a copy of the recorded Easement. The City's approval and execution of the Easement shall not impact the issuance of the Developer's Building Permit or any other necessary City permit, license, or approval.
7. Building materials shall be predominately brick, stacked stone, and/or cement siding (hardi-plank).

8. Elevations for all buildings must be approved by the Department of Community Development and the City Council prior to the issuance of a building permit.
9. The developer shall have the right to adjust the mix of one-bedroom and two-bedroom residential units in response to market conditions. Three-bedroom units shall be limited to no more than 10% of the total number of residential units at project build-out. Up to five (5) additional three-bedroom residential units may be constructed with the approval of the Director of Planning and Community Development. If the developer seeks to construct more than five (5) additional three-bedroom units, City Council approval shall be required.

eFiled and eRecorded
DATE: 03/23/2022
TIME: 2:30 PM
DEED BOOK: 9087
PAGE: 613 - 656
FILING FEES: \$25.00
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 4591293252
RECORDED BY: JP
CLERK: Charles Baker, C.S.C
Hall County, GA

UPON RECORDING RETURN TO:
Troutman Pepper Hamilton Sanders LLP
600 Peachtree Street, N.E.
Suite 3000
Atlanta, Georgia 30308
Attn: David C. Kirk

STATE OF GEORGIA

COUNTY OF HALL

AGREEMENT BY AND BETWEEN FLOWERY BRANCH APARTMENTS OWNER, LLC AND THE CITY OF FLOWERY BRANCH, GEORGIA, FOR ACCESS TO AND MAINTENANCE OF THE SANITARY SEWER SYSTEM

This AGREEMENT is made and entered into this 22nd day of March, 2022, by and between FLOWERY BRANCH APARTMENTS OWNER, LLC, a Delaware limited liability company, located at 8210 Creedmoor Road, Suite 103, Raleigh, North Carolina 27613 ("DEVELOPER") and the City of Flowery Branch, Georgia, a Georgia municipal corporation, located at 5410 Pine Street, Flowery Branch, Georgia 30542 ("CITY") for the purpose of maintaining, repairing, and improving the CITY'S sanitary sewer system by acknowledging DEVELOPER'S rights to immediately utilize sanitary sewer lines and a lift station conveyed to CITY by the Hall County Board of Education on property at 4450 Hog Mountain Road by installing a new sewer connection to an existing manhole on such property ("CONNECTION PROJECT") and, further, for the purpose of providing for the CITY'S eventual enhancement of the sanitary sewer system through an

additional project to be determined by the CITY (the "ENHANCEMENT"). Together, the CONNECTION PROJECT and ENHANCEMENT are referred to herein as "THE PROJECTS."

WHEREAS, DEVELOPER is the developer of 32.49 acres of land commonly known as the Woodfield Flowery Branch Apartments located at 4496 Hog Mountain Road within the City of Flowery Branch, Georgia (Tax Parcel 08097 000001A), consisting of approximately 342 residential units as shown on Exhibit A, attached hereto and incorporated herein ("DEVELOPMENT") and desires certain commitments from the CITY in regard to THE PROJECTS; and

WHEREAS, DEVELOPER is the owner of a permanent sewer and temporary construction easement on property owned by the Hall County Board of Education on property at 4450 Hog Mountain Road adjacent to DEVELOPMENT that gives DEVELOPER the right to perform the CONNECTION PROJECT to connect to the CITY sewer system through a manhole located on the School Board property, recorded in Book 8771 at Pages 425 - 435 of the records of Hall County, Georgia, and as shown on Exhibit B attached hereto and incorporated herein; and

WHEREAS, CITY acknowledges such rights, has previously approved plans for the CONNECTION PROJECT, and desires the DEVELOPER carry out the CONNECTION PROJECT; and

WHEREAS, DEVELOPER owns certain design and engineering documents for a possible future gravity sewer line from the CITY-owned lift station to another portion of the CITY sewer system ("DESIGN DOCUMENTS") that it is willing to provide to the CITY for potential use in the ENHANCEMENT; and

WHEREAS, DEVELOPER is the owner of a certain perpetual easement on property adjacent to DEVELOPMENT, and recorded in Book 9078 at Pages 536 - 553 of the records of Hall County, Georgia, as shown on Exhibit C, attached hereto and incorporated herein, that it is willing to assign to CITY and is also willing to grant an easement across a portion of DEVELOPMENT for CITY'S potential use in the ENHANCEMENT ("EASEMENTS"); and

WHEREAS, CITY is the owner of a pump station, sanitary sewer lines, and perpetual easements for same on property owned by the Hall County Board of Education by virtue of a Sewer System Facilities Dedication dated October 9, 2000, and recorded in Book 3782 at Pages 547 & 548 of the records of Hall County, Georgia, ("DEDICATION") as shown on Exhibit D, attached hereto and incorporated herein; and

WHEREAS, the CITY and DEVELOPER desire to cooperate in the design and construction of THE PROJECTS to maintain, repair, and improve the CITY'S sanitary sewer service to serve said DEVELOPMENT and other existing and planned developments in the City of Flowery Branch.

NOW THEREFORE, DEVELOPER and CITY agree to the following:

- I. CITY acknowledges DEVELOPER has prepared the engineering design of the CONNECTION PROJECT which has been accomplished by professional engineers registered in the State of Georgia and that the design complies with all relevant CITY specifications and standards. City further acknowledges the design and plans for the CONNECTION PROJECT have been approved in writing by the CITY engineer.
- II. DEVELOPER shall be responsible for and shall provide all labor and materials necessary for the construction of the CONNECTION PROJECT.
- III. DEVELOPER shall notify CITY in writing of its right to inspect the CONNECTION PROJECT prior to completion of construction of the CONNECTION PROJECT. DEVELOPER shall not bear the cost of said CITY inspection.
- IV. DEVELOPER shall provide CITY a statement from the CONNECTION PROJECT engineer certifying that the materials and workmanship meet CITY specifications and standards. Upon request of CITY, DEVELOPER shall substantiate by material affidavits from suppliers and by applicable test results. DEVELOPER shall provide CITY two copies of "as-built" drawings of the CONNECTION PROJECT.

- V. DEVELOPER shall provide CITY with copies of all lien releases by material and equipment suppliers for the CONNECTION PROJECT.
- VI. The CONNECTION PROJECT shall be complete upon certification in writing by the City Engineer and City Manager and upon such certification CITY shall permit connection of the DEVELOPMENT to the CITY sewer system.
- VII. Within ten (10) business days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY'S sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER shall provide the CITY with the DESIGN DOCUMENTS as well as funds equal to \$50,000.00 (Fifty Thousand Dollars) ("DEVELOPER'S CASH CONTRIBUTION"), such DEVELOPER'S CASH CONTRIBUTION to be used by the CITY for design and engineering, easement acquisition, and construction of the ENHANCEMENT PROJECT, the scope, location, and timing of which shall be at the CITY'S discretion.
- VIII. Within ten (10) business days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY'S sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER also shall deposit into escrow funds equal to \$150,000.00 (One Hundred Fifty Thousand Dollars) ("DEVELOPER'S ESCROW CONTRIBUTION") for the CITY'S eventual use for the ENHANCEMENT. The DEVELOPER'S ESCROW CONTRIBUTION will be escrowed with the national title insurance company that has issued DEVELOPER'S title insurance policy or another company mutually agreed upon by the DEVELOPER and the CITY. Together, the DEVELOPER'S CASH CONTRIBUTION and DEVELOPER'S ESCROW CONTRIBUTION (totaling \$200,000.00) will be DEVELOPER'S maximum monetary contribution towards the ENHANCEMENT.

- IX. Except as otherwise provided herein, DEVELOPER or its successors in interest or assigns shall be responsible for maintaining the CONNECTION PROJECT for one year after the CITY certifies the CONNECTION PROJECT complete. DEVELOPER shall transfer all applicable warranties to the CITY within fourteen (14) days before the expiration of the one-year maintenance period.
- X. Except as otherwise provided herein, upon the completion of the one-year maintenance period described in Paragraph IX of this AGREEMENT, DEVELOPER or its successors in interest or assigns shall dedicate all rights, title, and interest that DEVELOPER or its successors in interest or assigns may have in the CONNECTION PROJECT and any real property, including but not limited to easements or rights-of-way, necessary for the purpose of owning, operating and/or maintaining the CONNECTION PROJECT by providing CITY a recordable plat(s) showing all utilities within public easements and/or rights of way to be owned and maintained by the CITY. CITY shall not accept said dedication until such time that all property offered by DEVELOPER or its successors in interest or assigns for acceptance by the CITY is free and clear of all encumbrances including but not limited to liens and security interests.
- XI. Within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY'S sewer system as described in Paragraph VI of this AGREEMENT, the CITY shall have the right to direct DEVELOPER in writing to construct, at DEVELOPER'S expense, a direct connection to the CITY-owned pump station on property owned by the Hall County Board of Education using, in DEVELOPER'S sole discretion, either the existing CITY-owned easement as depicted in the DEDICATION attached hereto as Exhibit C, provided such easement is undisputed by the Hall County Board of Education, or another easement obtained by DEVELOPER or CITY

and to discontinue the use of the CONNECTION PROJECT. Upon receipt of such written direction from the CITY, DEVELOPER shall have an additional ninety (90) calendar days to construct the direct connection to the CITY-owned pump station and discontinue the use of the CONNECTION PROJECT, at which time DEVELOPER shall be relieved of any obligations contained in Paragraphs IX and X of this AGREEMENT. Should CITY not exercise its right under this Paragraph XI within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY'S sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER shall have no obligation to connect to the CITY-owned pump station. Likewise, should the DEVELOPER'S use of the CITY-owned easement, as depicted in the DEDICATION, be disputed by the Hall County Board of Education or if CITY or DEVELOPER is unable to obtain an undisputed easement from the Hall County Board of Education to construct a direct connection to the CITY-owned pump station, DEVELOPER shall have no obligation to connect to the CITY-owned pump station.

XII. CITY acknowledges that DEVELOPER'S CASH CONTRIBUTION and DEVELOPER'S ESCROW CONTRIBUTION may represent only a portion of funds required for final design and engineering, easement acquisition, and construction of the ENHANCEMENT and agrees to fund all remaining costs of the ENHANCEMENT using CITY funds and other funding sources.

XIII. DEVELOPER agrees that, no later than the issuance of the final certificate of occupancy for the DEVELOPMENT, it will grant CITY a perpetual easement for the construction and maintenance of the portion of a possible gravity sewer line that crosses the portion of the DEVELOPMENT indicated in Exhibit D, such easement being in substantially the same location as indicated on Exhibit D. DEVELOPER further agrees that, concurrent with the

grant of the aforementioned easement, it will assign to CITY all rights DEVELOPER has under any and all EASEMENTS obtained by DEVELOPER for portions of such gravity sewer line.

- XIV. DEVELOPER further agrees that, within ten (10) business days of the issuance of the final certificate of occupancy for the DEVELOPMENT, it will direct the escrow agent to release DEVELOPER'S ESCROW CONTRIBUTION to the CITY.
- XV. CITY acknowledges DEVELOPER previously has paid all required fees for CITY sewer capacity and/or connection to the CITY sewer system. CITY further agrees that, upon the completion of the CONNECTION PROJECT by DEVELOPER, CITY shall not withhold any certificates of occupancy for any portion of the DEVELOPMENT for any reason related to the CONNECTION PROJECT, sewer capacity, or sewer system improvements desired by the CITY.
- XVI. The term of this AGREEMENT shall be from the date first written above up and through one (1) year after completion of the PROJECTS unless terminated prior to such date by mutual agreement of CITY and DEVELOPER.
- XVII. All notices under this AGREEMENT shall be in writing and shall be deemed to have been given by delivering in-person, certified mail, or statutory overnight delivery to the following:

For CITY: Ms. Tonya Parrish
 City Manager
 City of Flowery Branch
 5410 Pine Street
 Flowery Branch, Georgia 30542

With Copy To: E. Ronald Bennett, Jr., Esq.
 Carothers & Mitchell, LLC
 1809 Buford Highway
 Buford, Georgia 30518

For DEVELOPER: Attn: Mr. Patrick Kassin

Flowery Branch Apartments Owner, LLC
8210 Creedmoor Road
Suite 103
Raleigh, North Carolina 27613

With Copy To: Stephanie E. Greer Fulcher, Esq.
Troutman Pepper Hamilton Sanders LLP
301 South College Street
34th Floor
Charlotte, North Carolina 28202

DEVELOPER or CITY may designate new or additional persons to receive such notices by providing written notice to the other party.

- XVIII. DEVELOPER shall indemnify and hold harmless CITY for any and all claims arising out of any act or omission related to the design and construction of the CONNECTION PROJECT made by DEVELOPER, or any person for whom DEVELOPER could be liable, prior to CITY acceptance of ownership of the CONNECTION PROJECT.
- XIX. The failure of any party to exercise any right given hereunder or to insist upon strict compliance with any term, condition, or covenant specified herein shall not constitute a waiver of such party's right to exercise such right or to demand strict compliance with any such term, condition, or covenant under this AGREEMENT.
- XX. This AGREEMENT contains the sole and entire agreement of the parties with respect to the PROJECTS contemplated hereunder and no representation, inducement, promise, or agreement, parole or written, between the parties and not incorporated herein shall be of any force or effect. Any amendment to this AGREEMENT shall be in writing and executed by the parties.
- XXI. The provisions of this AGREEMENT shall inure to the benefit or and be binding upon the parties hereto and the respective successors and assigns.
- XXII. Time is of the essence with respect to this AGREEMENT.

XXIII. This AGREEMENT and all amendments hereto shall be governed and construed under the laws of the State of Georgia.

XXIV. If any term, covenant, or condition of this AGREEMENT or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, such provision, or the application of such term, covenant, or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall be deemed severable, and the remainder hereof shall not be affected thereby, and each term, covenant, or condition of this AGREEMENT shall be valid and be enforced to the fullest extent permitted by law.

XXV. This AGREEMENT may be executed in several counterparts, each of which shall constitute an original and all of which together shall constitute one and the same instrument.

IN WITNESS THEREOF, the parties have set their hand and seal.

FLOWERY BRANCH APARTMENTS OWNER, LLC
FLOWERY BRANCH VENTURE LLP,
By: a Delaware LLP and sole
Manager of FLOWERY BRANCH APARTMENTS
OWNER, LLC

CITY OF FLOWERY BRANCH, GEORGIA

Patrick J. Kassir
By: Patrick J. Kassir

Edward R. Asbridge
By: Edward R. Asbridge, Mayor

ATTEST:

ATTEST:

Shelia R. Cooper

Shelia R. Cooper
By: Shelia Cooper, City Clerk

By:

SHELIA R COOPER NOTARY PUBLIC Gwinnett County State of Georgia My Commission Expires Sept 18, 2023

123572386v7

EXHIBIT A

EXHIBIT B

eFiled and eRecorded

DATE: 03/30/2021

TIME: 8:50 AM

DEED BOOK: 8771

PAGE: 425 - 435

FILING FEES: \$25.00

PARTICIPANT ID: 4591293252

RECORDED BY: CH

CLERK: Charles Baker, C.S.C
Hall County, GA

Recording Requested by and
Please Return to:

Michael Wall
Troutman Pepper Hamilton Sanders LLP
600 Peachtree Street, N.E., Suite 3000
Atlanta, GA 30308

PERMANENT SEWER AND TEMPORARY
CONSTRUCTION EASEMENT

THIS PERMANENT SEWER AND TEMPORARY CONSTRUCTION EASEMENT is executed this 26 day of Oct. 2020 by the Hall County Board of Education (hereinafter, "*Grantor*") for the benefit of Flowery Branch Apartments Owner, LLC, a Delaware limited liability company and its successors and assigns (the "*Grantee*").

WHEREAS, Grantee owns that certain parcel of land within the city of Flowery Branch, Hall County, Georgia having a tax parcel identification number of 08097-000001A (the "*Grantee Property*"), and requires certain easements as hereinafter described and granted in connection with the construction, maintenance, operation, and repair of certain Sewer Improvements (hereinafter defined) located within Hall County, Georgia; and

WHEREAS, Grantor owns that certain parcel of land located adjacent to the Grantee Property having a tax parcel identification number of 08093-000008 (the "*Grantor Property*"); the Grantor Property and the Grantee Property are collectively referred to herein as the "*Tracts*") and desires to grant such easements to Grantee for the consideration and upon the terms, conditions, and agreements hereinafter set forth.

NOW, THEREFORE, for and in consideration of TEN AND NO/100 DOLLARS (\$10.00), and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Grantor, said Grantor does hereby grant, bargain, sell, and release unto Grantee, its successors and assigns forever, the following easements subject to the terms, conditions, and agreements contained herein:

10920071072

(1) A perpetual easement (the "*Sewer Easement*") for the construction, location, installation, operation, relocation, extension, inspection, maintenance, repair, alteration, modification, redesign, reconstruction, replacement, and removal of one or more sewer lines, together with all valves, appurtenances, apparatus, and equipment (collectively, the "*Sewer Improvements*") upon, over, along, across, through, and under the area identified as "20' Permanent Sewer Easement" on Exhibit A attached hereto (the "*Easement Area*"); and

(2) A temporary access and construction easement (the "*TCE*," and together with the Sewer Easement, the "*Easements*") upon, over, along, across, through, and under such portions of the Grantor Property as shall be reasonably necessary for the installation of the Sewer Improvements and the performance of related construction activities and the operation of construction equipment associated therewith.

TOGETHER with all the rights and privileges necessary or convenient for the full use and enjoyment of said Easements, including, without limitation, the rights of ingress, egress, and regress over, under, through, upon, and across the remainder of the Grantor Property and all rights of way and ingress and egress easements beneficial to Grantor and/or the above-described property.

TOGETHER also with the right from time to time to remove, cut, trim, or clear and keep clear trees, underbrush, structures, and obstructions upon said Easement Area, and the right of entry upon the Grantor Property, beneficial estates, and all rights of way for all of the purposes aforesaid; provided, however, that nothing herein shall create a duty of Grantee to remove said items or keep clear or maintain the Easement Area, beneficial estates, or rights of way.

These Easements shall run with title to the Tracts and shall be binding upon and inure to the benefit of the Grantor and the Grantee and their respective heirs, successors, assigns, administrators, and executors.

IT IS UNDERSTOOD AND AGREED that the Easements above described are granted and accepted upon the following terms and conditions:

The TCE granted herein shall automatically terminate, without the necessity of the execution of recording of any other document, upon the completion of the Sewer Improvements and the public dedication of same to the City of Flowery Branch, a municipal corporation of the state of Georgia (the "*City*").

Upon completion of the Sewer Improvements, Grantee may assign its rights hereunder to the City in connection with the public dedication of such Sewer Improvements, and Grantor hereby consents both to such assignment and to such dedication.

The Grantor will make no use of the Easement Area that is inconsistent with the uses and purposes for which the Easements have been granted and shall not interfere with Grantee's use of the Easement Area in any way, and without limiting the generality of this provision, the Grantor

agrees that no permanent structures such as buildings, sheds, and other structures shall be placed upon the Easement Area at any time.

TO HAVE AND TO HOLD, all and singular, the easement rights and privileges described unto Grantee, its successors and assigns forever.

And the Grantor does hereby bind itself and its heirs, successors, assigns, administrators and executors to warrant and forever defend all and singular the said premises unto Grantee, its successors and assigns against Grantor and Grantor's heirs, successors, assigns, administrators and executors and against every person whomsoever lawfully claiming or to claim the same or any part thereof. The terms of this instrument shall run with title to the Tracts, and shall bind and inure to the benefit of the parties hereto, their respective successors and assigns, and every other person now or hereafter acquiring an interest in or lien upon the Tracts, or any portion thereof.

If any covenant or other provision contained in this instrument is to any extent declared by a court of competent jurisdiction to be invalid or unenforceable, the remaining covenants, restrictions, and provisions contained herein (or the application of such covenants and provisions to persons or circumstances other than those in respect of which the determination of invalidity or unenforceability was made) will not be affected thereby and each covenant and provision contained in this instrument will be valid and enforceable to the fullest extent permitted by law.

This instrument may be executed in any number of counterparts, each of which shall be an original but all of which shall constitute one and the same instrument.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, said Grantor has hereunto set its hand and affixed seal, the day and year first above written.

Signed, sealed and delivered
in the presence of:

Ronelle C. Craven
Unofficial Witness

Rhonda Sizemore
Notary Public

GRANTOR:

HALL COUNTY BOARD OF EDUCATION

By: _____ (SEAL)
Name: Chaeonda
Title: Chairman

My commission expires:

RHONDA SIZEMORE
NOTARY PUBLIC - Georgia
Hall County
My Commission Expires
April 24, 2021

TABLE A
PASSENGER AREA

(See Attached)

Easement Line Table

Line #	Length	Direction
L1	190.89'	N55° 30' 24"E
L2	123.92'	N19° 05' 40"E
L3	84.69'	N82° 41' 47"E
L4	116.06'	N7° 18' 13"W
L5	149.19'	N74° 06' 01"E
L6	20.00'	S15° 53' 59"E
L7	131.99'	S74° 06' 01"W
L8	118.86'	S7° 18' 13"E
L9	92.29'	S82° 41' 47"W
L10	118.10'	S19° 05' 40"W
L11	199.13'	S55° 30' 24"W
L12	20.07'	N29° 45' 45"W

**INTERSTATE 985
A/K/A GEORGIA
HIGHWAY 385
& LANIER PARKWAY**
(PUBLIC, VARIABLE R/W,
LIMITED ACCESS)

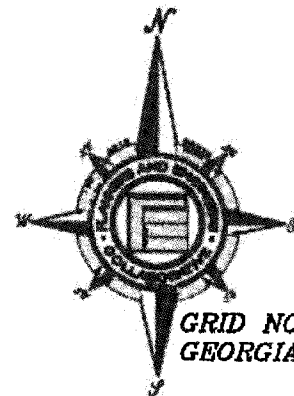
POC
N.1523697.86
E.2375542.53
20' PERMANENT
SEWER EASEMENT
0.304 ACRES
13,251 S.F.

IPF 1" ANGLE IRON
1.1' S.W. @
OF P/L

POB
20' PERMANENT
SEWER EASEMENT
N.1523309.24
E.2375764.76

S29°45'45"E /
0.65'
(TIE TO 1"CTP @
ANGLE IRON)

N/F
HALL COUNTY B.O.E.
TAX PARCEL ID: 08093-000008
PLAT SLIDE BOOK 660 PG 189A



SHEET 1 OF 2

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■ CIVIL ENGINEERING ■ LAND SURVEYING
330 RESEARCH COURT PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2241 ■ WWW.PECATL.COM
C.O.A.-LSF000004

**20' PERMANENT SEWER
EASEMENT EXHIBIT FOR:**

WOODFIELD DEVELOPMENT
DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523697.86, E. 2375542.53, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 29 degrees 45 minutes 45 seconds East a distance of 447.67 feet to a point (N.1523309.24, E. 2375764.76, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE North 55 degrees 30 minutes 24 seconds East a distance of 190.89 feet to a point; thence North 19 degrees 05 minutes 40 seconds East a distance of 123.92 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 84.69 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 116.06 feet to a point; thence North 74 degrees 06 minutes 01 seconds East a distance of 149.19 feet to a point; thence South 15 degrees 53 minutes 59 seconds East a distance of 20.00 feet to a point; thence South 74 degrees 06 minutes 01 seconds West a distance of 131.99 feet to a point; thence South 07 degrees 18 minutes 13 seconds East a distance of 118.86 feet to a point; thence South 82 degrees 41 minutes 47 seconds West a distance of 92.29 feet to a point; thence South 19 degrees 05 minutes 40 seconds West a distance of 118.10 feet to a point; thence South 55 degrees 30 minutes 24 seconds West a distance of 199.13 feet to a point; thence North 29 degrees 45 minutes 45 seconds West a distance of 20.07 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 20 foot Permanent Sewer Easement having an area of 13251 square feet, 0.304 acres more or less

SHEET 2 OF 2

PLANNERS AND ENGINEERS COLLABORATIVE

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(770) 451-2741 ■ WWW.PECATL.COM
C.O.A. LS-000004

20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION FOR: :

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523697.86, E. 2375542.53, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 29 degrees 45 minutes 45 seconds East a distance of 447.67 feet to a point (N.1523309.24, E. 2375764.76, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE North 55 degrees 30 minutes 24 seconds East a distance of 190.89 feet to a point; thence North 19 degrees 05 minutes 40 seconds East a distance of 123.92 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 84.69 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 116.06 feet to a point; thence North 74 degrees 06 minutes 01 seconds East a distance of 149.19 feet to a point; thence South 15 degrees 53 minutes 59 seconds East a distance of 20.00 feet to a point; thence South 74 degrees 06 minutes 01 seconds West a distance of 131.99 feet to a point; thence South 07 degrees 18 minutes 13 seconds East a distance of 118.86 feet to a point; thence South 82 degrees 41 minutes 47 seconds West a distance of 92.29 feet to a point; thence South 19 degrees 05 minutes 40 seconds West a distance of 118.10 feet to a point; thence South 55 degrees 30 minutes 24 seconds West a distance of 199.13 feet to a point; thence North 29 degrees 45 minutes 45 seconds West a distance of 20.07 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 20 foot Permanent Sewer Easement having an area of 13251 square feet, 0.304 acres more or less

SHEET 2 OF 2

PLANNERS AND ENGINEERS COLLABORATIVE

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C.O.A.-LSF000004

20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



Easement #2 Line Table		
Line #	Length	Direction
L25	20.07'	S29° 45' 45"E
L26	97.10'	N55° 30' 24"E
L27	102.02'	N55° 30' 24"E
L28	118.10'	N19° 05' 40"E
L29	92.29'	N82° 41' 47"E
L30	20.00'	N7° 18' 13"W
L31	20.00'	N82° 41' 47"E

L32	40.00'	S7° 18' 13"E
L33	20.04'	S82° 41' 47"W
L34	5.05'	S7° 14' 28"E
L35	20.00'	S82° 45' 32"W
L36	5.03'	N7° 14' 28"W
L37	59.85'	S82° 41' 47"W
L38	112.27'	S19° 05' 40"W
L39	108.60'	S55° 30' 24"W
L40	20.00'	N34° 29' 36"W

Easement #1 Line Table		
Line #	Length	Direction
L13	190.89'	N55° 30' 24"E
L14	123.92'	N19° 05' 40"E
L15	84.69'	N82° 41' 47"E
L16	95.83'	N7° 18' 13"W
L17	20.23'	S74° 06' 01"W
L18	40.45'	N7° 18' 13"W
L19	186.40'	N74° 06' 01"E
L20	40.00'	S15° 53' 59"E
L21	20.00'	S74° 06' 01"W
L22	20.00'	N15° 53' 59"W
L23	149.19'	S74° 06' 01"W
L24	20.23'	S7° 18' 13"E

**INTERSTATE 985
A/K/A GEORGIA
HIGHWAY 365 &
LANIER PARKWAY**
(PUBLIC, VARIABLE R/W,
LIMITED ACCESS)

POC IPF #4RB
N.1523697.86
E.2375542.53

**40' TEMPORARY
CONSTRUCTION
EASEMENT #1**
0.105 ACRES
4563 S.F.

**40' TEMPORARY
CONSTRUCTION
EASEMENT #2**
0.161 ACRES
7033 S.F.

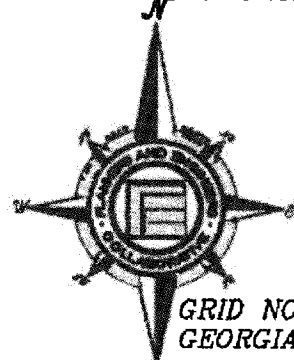
IPF 1" ANGLE IRON
1.1' S.W. @
OF P/L

S29°45'45"E/
0.65'
(TIE TO 1"CTP @
ANGLE IRON)

POB
**40' TEMPORARY
CONSTRUCTION
EASEMENT #1**
N.1523640.27
E.2376034.45

N/F
HALL COUNTY B.O.E.
TAX PARCEL ID: 08093-000008
PLAT SLIDE BOOK 660 PG 189A

POB
**40' TEMPORARY
CONSTRUCTION
EASEMENT #2**
N.1523346.81
E.2375854.75



GRID NORTH
GEORGIA WEST ZONE
SHEET 1 OF 3

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(770) 451-2741 ■ WWW.PECCATL.COM
C.O.A.-LSF000004

40' TEMPORARY CONSTRUCTION EASEMENT EXHIBIT FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



40' TEMPORARY CONSTRUCTION EASEMENT #1

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523697.86, E. 2375542.53, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 29 degrees 45 minutes 45 seconds East a distance of 447.67 feet to a point; thence North 55 degrees 30 minutes 24 seconds East a distance of 190.89 feet to a point; thence North 19 degrees 05 minutes 40 seconds East a distance of 123.92 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 84.69 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 95.83 feet to a point (N.1523640.27, E.2376034.45, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE South 74 degrees 06 minutes 01 seconds West a distance of 20.23 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 40.45 feet to a point; thence North 74 degrees 06 minutes 01 seconds East a distance of 186.40 feet to a point; thence South 15 degrees 53 minutes 59 seconds East a distance of 40.00 feet to a point; thence South 74 degrees 06 minutes 01 seconds West a distance of 20.00 feet to a point; thence North 15 degrees 53 minutes 59 seconds West a distance of 20.00 feet to a point; thence South 74 degrees 06 minutes 01 seconds West a distance of 149.19 feet to a point; thence South 07 degrees 18 minutes 13 seconds East a distance of 20.23 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 40 foot Temporary Construction Easement #1 having an area of 4563 square feet, 0.105 acres more or less

SHEET 2 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE

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C.O.A.-LSP000004

40' TEMPORARY CONSTRUCTION EASEMENT #1 LEGAL DESCRIPTION FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18151.01A
DATE: 7/09/20
SCALE: 1"=100'



40' TEMPORARY CONSTRUCTION EASEMENT #2

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523697.86, E.2375542.53, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 29 degrees 45 minutes 45 seconds East a distance of 447.67 feet to a point; thence South 29 degrees 45 minutes 45 seconds East a distance of 20.07 feet to a point; thence North 55 degrees 30 minutes 24 seconds East a distance of 97.10 feet to a point (N.1523346.81, E.2375854.75, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE North 55 degrees 30 minutes 24 seconds East a distance of 102.02 feet to a point; thence North 19 degrees 05 minutes 40 seconds East a distance of 118.10 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 92.29 feet to a point; thence North 07 degrees 18 minutes 13 seconds West a distance of 20.00 feet to a point; thence North 82 degrees 41 minutes 47 seconds East a distance of 20.00 feet to a point; thence South 07 degrees 18 minutes 13 seconds East a distance of 40.00 feet to a point; thence South 82 degrees 41 minutes 47 seconds West a distance of 20.04 feet to a point; thence South 07 degrees 14 minutes 28 seconds East a distance of 5.05 feet to a point; thence South 82 degrees 45 minutes 32 seconds West a distance of 20.00 feet to a point; thence North 07 degrees 14 minutes 28 seconds West a distance of 5.03 feet to a point; thence South 82 degrees 41 minutes 47 seconds West a distance of 59.85 feet to a point; thence South 19 degrees 05 minutes 40 seconds West a distance of 112.27 feet to a point; thence South 55 degrees 30 minutes 24 seconds West a distance of 108.60 feet to a point; thence North 34 degrees 29 minutes 36 seconds West a distance of 20.00 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 40 foot Temporary Construction Easement #2 having an area of 7033 square feet, 0.161 acres more or less

SHEET 3 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE

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350 RESEARCH COURT PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2741 ■ WWW.PECATL.COM
C.O.A.-LSF000004

40' TEMPORARY CONSTRUCTION EASEMENT #2 LEGAL DESCRIPTION FOR:

DRAWN BY: MN WOODFIELD DEVELOPMENT
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



EXHIBIT C

eFiled and eRecorded
DATE: 03/11/2022
TIME: 7:08 AM
DEED BOOK: 9078
PAGE: 536 - 553
FILING FEES: \$25.00
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 4591293252
RECORDED BY: JP
CLERK: Charles Baker, C.S.C
Hall County, GA

Recording Requested by and
Please Return to:

Michael Wall
Troutman Pepper Hamilton Sanders LLP
600 Peachtree Street, N.E., Suite 3000
Atlanta, GA 30308

PERMANENT SEWER AND TEMPORARY
CONSTRUCTION EASEMENT

THIS PERMANENT SEWER AND TEMPORARY CONSTRUCTION EASEMENT is executed this 31st day of March, 2020 (the "*Effective Date*") by the Estate of Mary Elizabeth R. Hickman, Louise Harley Hull, William Watt Neal, Jr. and Mary E. Roberts, f/k/a Mary Neal (collectively, "*Grantor*") for the benefit of Flowery Branch Apartments Owner, LLC, a Delaware limited liability company and its successors and assigns (the "*Grantee*").

WHEREAS, Grantee owns that certain parcel of land within the city of Flowery Branch, Hall County, Georgia having a tax parcel identification number of 08097-000001A (the "*Grantee Property*"), and requires certain easements as hereinafter described and granted in connection with the construction, maintenance, operation, and repair of certain Sewer Improvements (hereinafter defined) located within Hall County, Georgia; and

WHEREAS, Grantor owns that certain parcel of land located adjacent to the Grantee Property having a tax parcel identification number of 08097-000005 (the "*Grantor Property*"); the Grantor Property and the Grantee Property are collectively referred to herein as the "*Tracts*") and desires to grant such easements to Grantee for the consideration and upon the terms, conditions, and agreements hereinafter set forth.

NOW, THEREFORE, for and in consideration of TEN AND NO/100 DOLLARS (\$10.00), and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by Grantor, said Grantor does hereby grant, bargain, sell, and release unto Grantee,



its successors and assigns forever, the following easements subject to the terms, conditions, and agreements contained herein:

(1) A perpetual easement (the "**Sewer Easement**") for the construction, location, installation, operation, relocation, extension, inspection, maintenance, repair, alteration, modification, redesign, reconstruction, replacement, and removal of one or more sewer lines, together with all valves, appurtenances, apparatus, and equipment (collectively, the "**Sewer Improvements**") upon, over, along, across, through, and under the area identified as "20' Permanent Sewer Easement" on Exhibit A attached hereto (the "**Easement Area**"); and

(2) A temporary access and construction easement (the "**TCE**," and together with the Sewer Easement, the "**Easements**") upon, over, along, across, through, and under such portions of the Grantor Property as shall be reasonably necessary for the installation of the Sewer Improvements and the performance of related construction activities and the operation of construction equipment associated therewith.

TOGETHER with all the rights and privileges necessary or convenient for the full use and enjoyment of said Easements, including, without limitation, the rights of ingress, egress, and regress over, under, through, upon, and across the remainder of the Grantor Property and all rights of way and ingress and egress easements beneficial to Grantor and/or the above-described property.

TOGETHER also with the right from time to time to remove, cut, trim, or clear and keep clear trees, underbrush, structures, and obstructions upon said Easement Area, and the right of entry upon the Grantor Property, beneficial estates, and all rights of way for all of the purposes aforesaid; provided, however, that nothing herein shall create a duty of Grantee to remove said items or keep clear or maintain the Easement Area, beneficial estates, or rights of way.

These Easements shall run with title to the Tracts and shall be binding upon and inure to the benefit of the Grantor and the Grantee and their respective heirs, successors, assigns, administrators, and executors.

IT IS UNDERSTOOD AND AGREED that the Easements above described are granted and accepted upon the following terms and conditions:

The TCE granted herein shall automatically terminate, without the necessity of the execution of recording of any other document, upon the completion of the Sewer Improvements and the public dedication of same to the City of Flowery Branch, a municipal corporation of the state of Georgia (the "**City**").

Upon completion of the Sewer Improvements, Grantee may assign its rights hereunder to the City in connection with the public dedication of such Sewer Improvements, and Grantor hereby consents both to such assignment and to such dedication.

The Grantor will make no use of the Easement Area that is inconsistent with the uses and purposes for which the Easements have been granted and shall not interfere with Grantee's use of

the Easement Area in any way, and without limiting the generality of this provision, the Grantor agrees that no permanent structures such as buildings, sheds, and other structures shall be placed upon the Easement Area at any time.

Notwithstanding anything contained herein to the contrary, Grantee hereby indemnifies and shall save and hold Grantor harmless from any injury or loss incurred by the Grantor as a direct result of damage to the Grantor Property caused by the Grantee in the exercise of its rights hereunder; provided that in no case shall Grantee indemnify Grantor, its successors, or assigns for losses arising from Grantor's, its successors' or assigns' negligence or willful misconduct, or for losses arising or incurred due to any hazardous substances or other conditions existing on the Grantor Property prior to the Effective Date and not otherwise directly caused by Grantee.

TO HAVE AND TO HOLD, all and singular, the easement rights and privileges described unto Grantee, its successors and assigns forever.

And the Grantor does hereby bind itself and its heirs, successors, assigns, administrators and executors to warrant and forever defend all and singular the said premises unto Grantee, its successors and assigns against Grantor and Grantor's heirs, successors, assigns, administrators and executors and against every person whomsoever lawfully claiming or to claim the same or any part thereof. The terms of this instrument shall run with title to the Tracts, and shall bind and inure to the benefit of the parties hereto, their respective successors and assigns, and every other person now or hereafter acquiring an interest in or lien upon the Tracts, or any portion thereof.

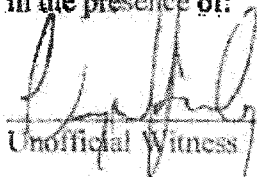
If any covenant or other provision contained in this instrument is to any extent declared by a court of competent jurisdiction to be invalid or unenforceable, the remaining covenants, restrictions, and provisions contained herein (or the application of such covenants and provisions to persons or circumstances other than those in respect of which the determination of invalidity or unenforceability was made) will not be affected thereby and each covenant and provision contained in this instrument will be valid and enforceable to the fullest extent permitted by law.

This instrument may be executed in any number of counterparts, each of which shall be an original but all of which shall constitute one and the same instrument.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, said Grantor has hereunto set its hand and affixed seal, the day and year first above written.

Signed, sealed and delivered
in the presence of:


Unofficial Witness

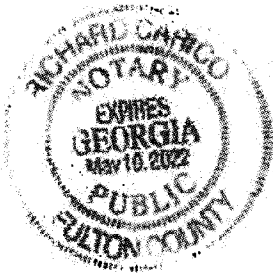

Notary Public

My commission expires: May 10, 2022

GRANTOR:

Estate of Mary Elizabeth R. Hickman

 (SEAL)
By: Earl L. Hickman
Title: Executor of the Estate of Mary Elizabeth
R. Hickman



[GRANTOR SIGNATURES CONTINUE ON FOLLOWING PAGE]

Signed, sealed and delivered
in the presence of:

GRANTOR:

Louise Harley Hull

Helen Hull
Unofficial Witness

Louise Harley Hull (SEAL)
LOUISE HARLEY HULL

Molly M. Hull
Notary Public

My commission expires: 10-19-24

[GRANTOR SIGNATURES CONTINUE ON FOLLOWING PAGE]



Signed, sealed and delivered
in the presence of:

GRANTOR:

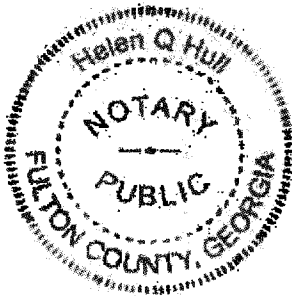
[Signature]
Unofficial Witness

[Signature]
WILLIAM WATT NEAL, JR.

[Signature]
Notary Public

My commission expires: 9.25.2023

[GRANTOR SIGNATURES CONTINUE ON FOLLOWING PAGE]

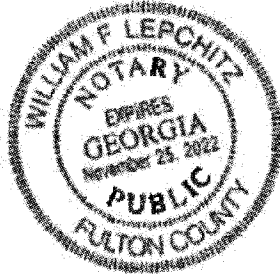


Signed, sealed and delivered
in the presence of:

[Signature]
Unofficial Witness

[Signature]
Notary Public

My commission expires: 11/25/2022



GRANTOR:

Mary E. Roberts, f/k/a Mary Neal

[Signature] (SEAL)
MARY E. ROBERTS, F/K/A MARY NEAL

Exhibit A
EASEMENT AREA

(SEE ATTACHED)

1091871045

**A/K/A INTERSTATE 985
LANIER PARKWAY
(PUBLIC, VARIABLE R/W,
LIMITED ACCESS)**



GRID NORTH
GEORGIA WEST ZONE

POC
N.1523126.68
E.2375119.06

N30°50'15"W
274.99'

IPF R/W
WOVEN WIRE FENCE

N/F
MARY ELIZABETH HICKMAN
TAX PARCEL ID: 08097-000005
DB 3543 PG. 397

MATCHLINE

POB
40' TEMPORARY
CONSTRUCTION
EASEMENT
N.1522595.83
E.2375115.19

40' TEMPORARY
CONSTRUCTION
EASEMENT
0.184 ACRES
8,023 S.F.

SHEET 1 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE
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770/451-2711 ■ WWW.PECOLL.COM
C.O.A.-US000054

**40' TEMPORARY CONSTRUCTION
EASEMENT EXHIBIT FOR:**

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



IPF RWM

N/F
MARY ELIZABETH HICKMAN
TAX PARCEL ID: 08097-000005
DB 3543 PG 397

MATCHLINE

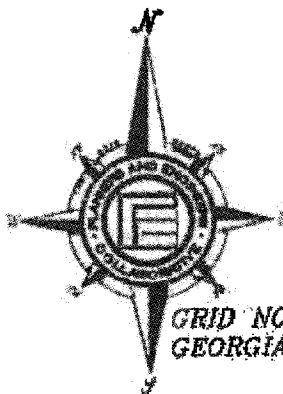
POB

40' TEMPORARY
CONSTRUCTION
EASEMENT
N.1522595.83
E.2375115.19

40' TEMPORARY
CONSTRUCTION
EASEMENT
0.184 ACRES
8,023 S.F.

40 foot Temporary Construction
Easement Line Table

Line #	Length	Direction
L1	39.05'	S29° 25' 29"E
L2	20.29'	S29° 25' 29"E
L3	133.75'	S70° 15' 13"W
L4	138.42'	S54° 51' 44"W
L25	134.95'	S28° 50' 35"E
L26	20.00'	N61° 09' 25"E
L27	39.31'	S28° 50' 35"E
L28	261.48'	S19° 38' 53"W
L29	118.78'	S70° 01' 57"W
L30	20.00'	N19° 58' 03"W
L31	109.37'	N70° 01' 57"E
L32	30.31'	S28° 50' 35"E



GRID NORTH
GEORGIA WEST ZONE

SHEET 2 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE
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(770) 451-2741 or WWW.PECAL.COM
C.O.A.-LS000004

40' TEMPORARY CONSTRUCTION
EASEMENT EXHIBIT FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



40' TEMPORARY CONSTRUCTION EASEMENT

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523126.68, E. 2375119.06, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 30 degrees 50 minutes 15 seconds East a distance of 274.99 feet to a #4 rebar found; thence South 29 degrees 25 minutes 29 seconds East a distance of 39.05 feet to a point; thence South 29 degrees 25 minutes 29 seconds East a distance of 20.29 feet to a point; thence South 70 degrees 15 minutes 13 seconds West a distance of 133.75 feet to a point; thence South 54 degrees 51 minutes 44 seconds West a distance of 138.42 feet to a point; thence South 28 degrees 50 minutes 35 seconds East a distance of 134.95 feet to a point (N.1522595.83, E. 2375115.19, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE North 61 degrees 09 minutes 25 seconds East a distance of 20.00 feet to a point; thence South 28 degrees 50 minutes 35 seconds East a distance of 39.31 feet to a point; thence South 19 degrees 38 minutes 53 seconds West a distance of 261.48 feet to a point; thence South 70 degrees 01 minutes 57 seconds West a distance of 118.78 feet to a point; thence North 19 degrees 58 minutes 03 seconds West a distance of 20.00 feet to a point; thence North 70 degrees 01 minutes 57 seconds East a distance of 109.37 feet to a point; thence North 19 degrees 38 minutes 53 seconds East a distance of 243.07 feet to a point; thence North 28 degrees 50 minutes 35 seconds West a distance of 30.31 feet to a point, said point is the TRUE POINT OF BEGINNING.

Said 40 foot Temporary Construction Easement having an area of 8,023 square feet, 0.184 acres more or less.

SHEET 9 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE

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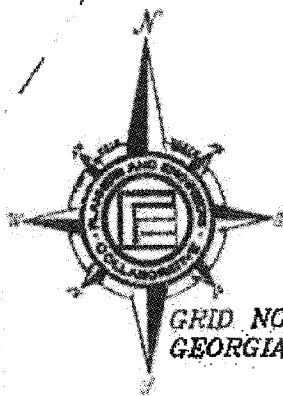


■ SITE PLANNING ■ LANDSCAPE ARCHITECTURE
■ CIVIL ENGINEERING ■ LAND SURVEYING
350 RESEARCH COURT PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2741 ■ WWW.PECOLL.COM
C.O.A. - ESF000004

40' TEMPORARY CONSTRUCTION EASEMENT LEGAL DESCRIPTION FOR:

DRAWN BY: MN WOODFIELD DEVELOPMENT
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'





INTERSTATE 985
A/K/A GEORGIA HIGHWAY 365 &
LANIER PARKWAY
(PUBLIC, VARIABLE R/W,
LIMITED ACCESS)

GRID NORTH
GEORGIA WEST ZONE

IPF R/W

20' PERMANENT
SEWER EASEMENT
0.703 ACRES
30,611 S.F.

N/F
MARY ELIZABETH HICKMAN
TAX PARCEL ID: 08097-000005
DB 3543 PG 397

MATCHLINE

SHEET 1 OF 3

POC
N.1523126.68
E.2375119.06

S30°50'15"E
274.99'

POB
20' PERMANENT
SEWER EASEMENT
N.1522856.56
E.2375279.21

L24

L3

L23

L4

L5

L21

L6

PLANNERS AND ENGINEERS COLLABORATIVE

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■ CIVIL ENGINEERING ■ LAND SURVEYING
350 RESEARCH COURT, PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2741 ■ WWW.PECATLOOM
C.O.A.-13R00004

20' PERMANENT SEWER
EASEMENT EXHIBIT FOR:

WOODFIELD DEVELOPMENT

DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18181.01A
DATE: 7/29/20
SCALE: 1"=100'



**INTERSTATE 985
A/K/A GEORGIA
HIGHWAY 365 &
LANIER PARKWAY
(PUBLIC VARIABLE R/W,
LIMITED ACCESS)**

MATCHLINE

**20' PERMANENT
SEWER EASEMENT
0.703 ACRES
30,611 S.F.**

**N/F
MARY ELIZABETH HICKMAN
TAX PARCEL ID: 08097-000005
DB: 3543 PG 397**

20 foot Permanent Sanitary Sewer Easement Line Table		
Line #	Length	Direction
L1	39.05'	S29° 25' 29"E
L2	20.29'	S29° 25' 29"E
L3	133.75'	S70° 15' 13"W
L4	138.42'	S54° 51' 44"W
L5	165.25'	S28° 50' 35"E
L6	243.07'	S19° 38' 53"W
L7	295.53'	S70° 01' 57"W
L8	158.77'	S53° 07' 19"W
L9	220.09'	S47° 07' 41"W
L10	129.08'	S48° 34' 37"W
L11	4.61'	N85° 19' 11"E
L12	20.00'	S4° 40' 49"E
L13	18.77'	S85° 19' 11"W
L14	27.59'	N44° 18' 05"W
L15	153.52'	N48° 34' 37"E
L16	220.89'	N47° 07' 41"E
L17	182.79'	N53° 07' 19"E

L18	16.01'	N53° 07' 19"E
L19	4.87'	S36° 52' 40"E
L20	272.37'	N70° 01' 57"E
L21	224.65'	N19° 38' 53"E
L22	174.16'	N28° 50' 35"W
L23	159.04'	N54° 51' 44"E
L24	133.05'	N70° 15' 13"E

**N/F
BRE DDR BR
STONEBRIDGE GA LLC
TAX PARCEL ID: 08097-000009**



SHEET 2 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE

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(770) 451-2741 ■ WWW.PECATL.COM
C.O.A. 137000004

**20' PERMANENT SEWER
EASEMENT EXHIBIT FOR:**

WOODFIELD DEVELOPMENT

**DRAWN BY: MN
CHECKED BY: JH
FILE NO.: 18151.01A
DATE: 7/09/20
SCALE: 1"=100'**



20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND lying and being in Land Lot 97 of the 8th District, City of Flowery Branch, Hall County, Georgia and being more particularly described as follows:

COMMENCING at a #4 rebar found (N.1523126.68, E. 2375119.06, NAD83, GA. West Zone) on the Southeasterly Right of Way Line of Interstate 985 A/K/A Georgia Highway 365 & Lanier Parkway (Public, Variable R/W, Limited Access; thence leaving said Southeasterly Right of Way Line of Interstate 985 South 30 degrees 50 minutes 15 seconds East a distance of 274.99 feet to a #4 rebar found; thence South 29 degrees 25 minutes 29 seconds East a distance of 39.05 feet to a point (N.1522856.56, E. 2375279.21, NAD83, GA. West Zone), said point is the TRUE POINT OF BEGINNING.

THENCE South 29 degrees 25 minutes 29 seconds East a distance of 20.29 feet to a point;
thence South 70 degrees 15 minutes 13 seconds West a distance of 133.75 feet to a point;
thence South 54 degrees 51 minutes 44 seconds West a distance of 138.42 feet to a point;
thence South 28 degrees 50 minutes 35 seconds East a distance of 165.25 feet to a point;
thence South 19 degrees 38 minutes 53 seconds West a distance of 243.07 feet to a point;
thence South 70 degrees 01 minutes 57 seconds West a distance of 295.53 feet to a point;
thence South 53 degrees 07 minutes 19 seconds West a distance of 158.77 feet to a point;
thence South 47 degrees 07 minutes 41 seconds West a distance of 220.09 feet to a point;
thence South 48 degrees 34 minutes 37 seconds West a distance of 129.08 feet to a point;
thence North 85 degrees 19 minutes 11 seconds East a distance of 4.61 feet to a point;
thence South 04 degrees 40 minutes 49 seconds East a distance of 20.00 feet to a point;
thence South 85 degrees 19 minutes 11 seconds West a distance of 18.77 feet to a point;
thence North 44 degrees 18 minutes 05 seconds West a distance of 27.59 feet to a point;
thence North 48 degrees 34 minutes 37 seconds East a distance of 153.52 feet to a point;
thence North 47 degrees 07 minutes 41 seconds East a distance of 220.89 feet to a point;
thence North 53 degrees 07 minutes 19 seconds East a distance of 162.79 feet to a point;
thence North 53 degrees 07 minutes 19 seconds East a distance of 16.01 feet to a point;
thence South 36 degrees 52 minutes 41 seconds East a distance of 4.87 feet to a point;
thence North 70 degrees 01 minutes 57 seconds East a distance of 272.37 feet to a point;
thence North 19 degrees 38 minutes 53 seconds East a distance of 224.65 feet to a point;
thence North 28 degrees 50 minutes 35 seconds West a distance of 174.16 feet to a point;
thence North 54 degrees 51 minutes 44 seconds East a distance of 159.04 feet to a point;
thence North 70 degrees 15 minutes 13 seconds East a distance of 133.05 feet to a point,
said point is the TRUE POINT OF BEGINNING.

Said 20 foot Permanent Sewer Easement having an area of 30,611 square feet, 0.703 acres more or less

SHEET 3 OF 3

PLANNERS AND ENGINEERS COLLABORATIVE

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350 RESEARCH COURT PEACHTREE CORNERS, GEORGIA 30092
(770) 451-2741 ■ WWW.PECAL.COM
C.O.A. - LS0000004

20' PERMANENT SEWER EASEMENT LEGAL DESCRIPTION FOR:

WOODFIELD DEVELOPMENT
DRAWN BY: JMN
CHECKED BY: JH
FILE NO.: 18161.01A
DATE: 7/09/20
SCALE: 1"=100'



AFFIDAVIT OF MARY ELIZABETH ROBERTS

This Affidavit (this "Affidavit") is made as of the date set forth below by Mary Elizabeth Roberts, f/k/a Mary Neal, an individual resident of Hall County, Georgia (the "Undersigned"). The Undersigned hereby certifies for the benefit of Chicago Title Insurance Company as follows:

1. The Undersigned is not the party identified as "Mary E. Dine-Neal" in the Notice of Federal Tax Lien dated December 6, 2011, recorded December 14, 2011 in Lien Book 387, Page 314 in the records of the Clerk of Superior Court of Hall County, Georgia, attached as Exhibit A hereto.

2. The Undersigned owns and permanently resides at the residence located at 11 Bohler Manor Rd [street address] in Hall County [state], and has owned and permanently resided at such property since 2012 [year].

[SEE ATTACHED SIGNATURE PAGE]

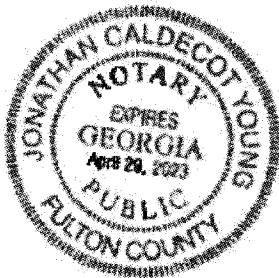
Dated: August 7, 2020.

By: Mary Elizabeth Roberts
MARY ELIZABETH ROBERTS

STATE OF Georgia
COUNTY OF Fulton

I, Jonathan Caldecot Young, a Notary Public for said County and State, do hereby certify that Mary Elizabeth Roberts either being personally known to me or proven by satisfactory evidence (said evidence being Durston), personally appeared before me this day, and acknowledged the voluntary due execution of the foregoing instrument by him for the purposes stated therein. Witness my hand and notarial seal, this 7 day of August, 2020.

[SEAL]



Jonathan Caldecot Young
Notary Public

Printed Name: Jonathan Caldecot Young

My Commission Expires 4/20/23

00387
00314

3351 Department of the Treasury - Internal Revenue Service
Form 668 (Y)(c)
(Rev. February 2004)
Notice of Federal Tax Lien
BK 387
000314

Area: SMALL BUSINESS/SELF EMPLOYED AREA #5
Lien Unit Phone: (800) 829-3993
Serial Number: 834381311
For Optional Use by Recording Office

As provided by section 6321, 6322, and 6323 of the Internal Revenue Code, we are giving a notice that taxes (including interest and penalties) have been assessed against the following named taxpayer. We have made a demand for payment of this liability, but it remains unpaid. Therefore, there is a lien in favor of the United States on all property and rights to property belonging to this taxpayer for the amount of these taxes, and additional penalties, interest, and costs that may accrue.

Name of Taxpayer WILLIAM J NEALIS & MARY E DINE-NEAL

Residence 3039 DALE RD
GAINESVILLE, GA 30507-8102

IMPORTANT RELEASE INFORMATION: For each assessment listed below, unless notice of the lien is refiled by the date given in column (d), this notice shall, on the day following such date, operate as a certificate of release as defined in IRC 6325(a).

Kind of Tax (a)	Tax Period Ending (b)	Identifying Number (c)	Date of Assessment (d)	Last Day for Refiling (e)	Unpaid Balance of Assessment (f)
1040	12/31/2000	XXX-XX-9367	04/11/2011	05/11/2021	7413.64
1040	12/31/2001	XXX-XX-9367	05/23/2011	06/22/2021	9781.56
1040	12/31/2002	XXX-XX-9367	04/11/2011	05/11/2021	5331.02
1040	12/31/2003	XXX-XX-9367	08/21/2006	09/20/2016	161.31
1040	12/31/2004	XXX-XX-9367	04/18/2011	05/18/2021	9791.17
1040	12/31/2006	XXX-XX-9367	04/04/2011	05/04/2021	4207.25
1040	12/31/2007	XXX-XX-9367	04/18/2011	05/18/2021	7715.44
1040	12/31/2008	XXX-XX-9367	03/07/2011	04/06/2021	18440.80
1040	12/31/2009	XXX-XX-9367	03/07/2011	04/06/2021	2335.53

Place of Filing
Clerk of Superior Court
Hall County
Gainesville, GA 30503
Total: \$ 65167.42

This notice was prepared and signed at NASHVILLE, TN on this,

the 06th day of December, 2011.

021993

Signature: [Signature]
for FRED BANKS
Title: ACS SBSE
(800) 829-3993
25-00-0000

(NOTE: Certificate of officer authorized by law to take acknowledgment is not essential to the validity of Notice of Federal Tax Lien
Rev. RUL. 71-465, 1971-2 C.B. 409)

Part 1 - Kept By Recording Office

Form 668(Y)(c) (Rev. 2-2004)
CAT. NO 60029X

FILED
HALL CO, GA
11 DEC 14 PM 12:25
CHARLES BAKER, CLERK
SUPERIOR STATE COURT
BY: [Signature]

EXHIBIT D

83782
8547

033796

Mail- Mr. Daniel R. Murphy
Harben & Hartley
P.O. Box 2975
Gainesville, Ga 30503

SEWER SYSTEM FACILITIES DEDICATION

000547

GEORGIA, HALL COUNTY

This conveyance executed this 9th day of October, 2000 for and in consideration of ten (\$10.00) dollars in hand paid, receipt of which is acknowledged, the undersigned does hereby grant, sell and convey unto the City of Flowery Branch, Georgia, forever all pump stations, sanitary sewers lines, perpetual easements for same, and appurtenances shown across and through the land indicated on the plat attached hereto as Exhibit A. Said land is indicated in Deed Book 3067, Pages 223-227; Deed Book 3183, Pages 258-262; and Deed Book 3420, Page 464, in the Superior Court of Hall County in Gainesville, Georgia. Said easements being on the lands of grantor and extending a distance of 10 feet on either and both sides of the centerline of sewer line and pump station or as otherwise shown on Exhibit A.

The Grantee shall have the right of ingress and egress on said lands for the purpose of maintaining said sewer system facilities and shall exercise reasonable diligence in doing necessary work in connection therewith so as to avoid damaging the property.

IN WITNESS WHEREOF, the undersigned Grantee hereto set his/her hand and seal the day and year above written.

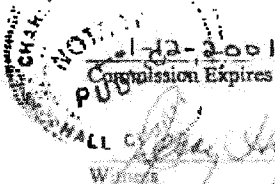
Signed, Sealed and Delivered
In the Presence of:

Chasem Young
Notary Public

HALL COUNTY SCHOOL DISTRICT

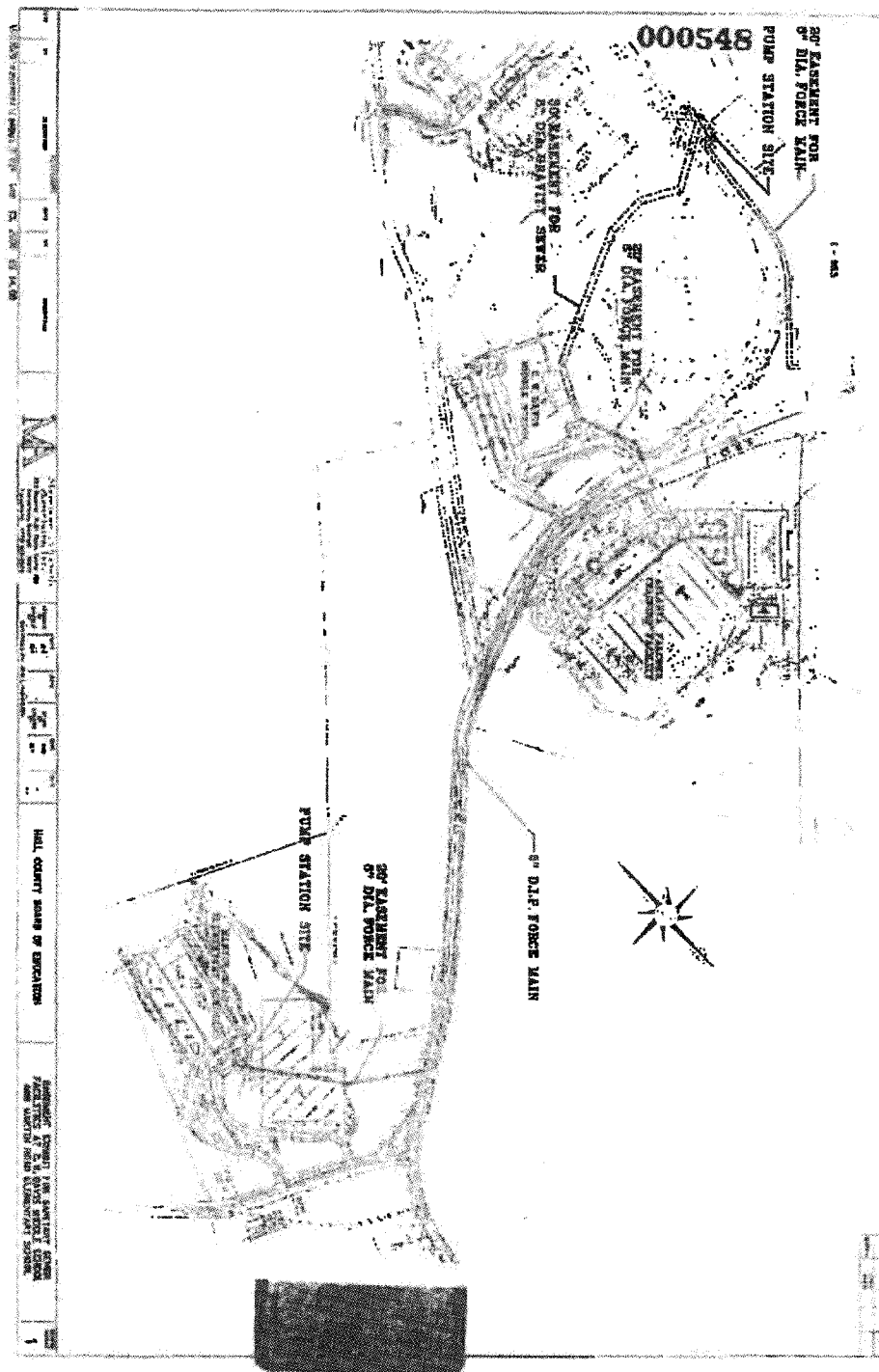
Bill L. Higgins
Chairman, Hall County Board of Education

Dwight S. Wood
Superintendent and Ex-Officio Secretary
Hall County Board of Education



Georgia, Hall County Clerk Superior Court
Filed in office, this 11 day of Dec.
20 00 at 11:15 a.m. Recorded in
Book 3183 Page(s) 547-548
this 12 day of Dec., 2000
DWIGHT S. WOOD, CLERK, by: 31442

03782
0548



UPON RECORDING RETURN TO:
Troutman Pepper Hamilton Sanders LLP
600 Peachtree Street, N.E.
Suite 3000
Atlanta, Georgia 30308
Attention: David C. Kirk

eFiled and eRecorded
DATE: 04/27/2022
TIME: 10:46 AM
DEED BOOK: 9113
PAGE: 627 - 633
FILING FEES: \$25.00
INTANGIBLE TAX: \$0.00
PARTICIPANT ID: 9581057022
RECORDED BY: EAR
CLERK: Charles Baker, C.S.C
Hall County, GA

STATE OF GEORGIA

COUNTY OF HALL

**CITY OF FLOWERY BRANCH
UNIFORM DEED OF CONSERVATION AND TRAIL EASEMENT**

THIS INDENTURE, made the 25th day of February in the year two thousand and twenty two (2022), between FLOWERY BRANCH APARTMENTS OWNER, LLC, a Delaware limited liability company, whose address is P.O. Box 1127, Isle of Palms, South Carolina 29451, as party or parties of the first part (hereinafter called "Grantor"), and the CITY OF FLOWERY BRANCH, a Georgia Municipal Corporation, as party or parties of the second part (hereinafter called "Grantee") (the words "Grantor" and "Grantee" to include their respective successors and assigns where the context requires or permits).

WITNESSETH:

WHEREAS, Grantee herein participated in preparing a plan published by the Gainesville-Hall Metropolitan Planning Organization in February 2019 for the development of a series of trails, paths, and walkways throughout South Hall County, including portions of the City of Flowery Branch (hereinafter called the "South Hall Trail Study"); and

WHEREAS, Grantor is the owner of all that tract or parcel of land lying and being in Land Lot 97 of the 8th Land District of Hall County, Georgia, being more particularly depicted on the

Survey contained in Exhibit "A" attached hereto and incorporated herein by this reference (hereinafter called the "Easement Property"); and

WHEREAS, Grantor desires to grant to Grantee a Conservation and Trail Easement in and to the Easement Property to permit the Easement Property to be utilized as a portion of the Grantee's public trail and park system; and

WHEREAS, Grantee is a governmental body empowered to hold an interest in real property under the laws of the State of Georgia; and

WHEREAS, Grantee is a "qualified organization" within the meaning of Section 170(h)(3) of the Internal Revenue Code of 1986, as amended (the "Code"), as defined by Clause (v) of Section 170(b)(1)(A), and Section 170(c)(1); and

WHEREAS, Grantee is a qualified "holder" within the meaning of Official Code of Georgia Annotated Section 44-10-2(2)(A); and

WHEREAS, Grantee, by recording this Deed of Conservation and Trail Easement accepts the grant and dedication of the Easement Property under the terms hereinafter specified.

NOW, THEREFORE, in consideration of Ten Dollars (\$10.00) and other valuable consideration, Grantor has donated, granted, remised, released, and conveyed, and by these presents does hereby donate, grant, remise, release, and convey unto Grantee a perpetual Conservation and Trail Easement in, to and through the Easement Property described in Exhibit "A," subject to the following terms, conditions, restrictions, and reservations:

(a) The Easement Property shall be used for conservation and public recreation purposes and uses only, including, without limitation, walking, hiking, jogging, bicycle riding, bird watching, picnicking, nature studies, and environmental education activities. Members of the general public shall have free access and use of the Easement Property for the purposes herein specified, subject to the laws and ordinances of Grantee and Grantee's plan for the South Hall Trail System; provided, this instrument shall not be construed to permit the City or the public at large to access any property of the Grantor other than the Easement Property; and provided further, this Conservation and Trail Easement is granted subject to all general utility, sewer, drainage, and other easements, restrictions, and encumbrances of record affecting the Easement Property now and in the future.

(b) Grantee shall have the right to construct and install within the Easement Property, trails or multi-use paths of either pervious or impervious surfaces, paths, and walkways, together with directional and instructive signs, trail markers, litter receptacles, gates, trail bridges, shelters, boardwalks, exercise stations, restroom facilities, utilities, lights, sewerage easements, vehicular access for construction and maintenance purposes, parking facilities, stream bank reclamation and any other modifications, in Grantee's sole discretion, necessary to improve the environment and trail system, and other convenience facilities consistent with Grantee's plan for the South Hall Trail System. Notwithstanding the foregoing, Grantor and Grantee acknowledge and agree that the Easement Property as currently described is an approximately 4-acre property, to the northwest

of and commencing at the centerline of an unnamed creek, of which the parties hereto intend that the Grantee will use for the location of a trail, and that before Grantee commences any of the work or improvements in the Easement Property described above in this subsection (b), including without limitation the construction of any trail or multi-use path, Grantee shall have the Survey updated by a Surveyor reasonably satisfactory to Grantor, to provide a metes and bounds legal description of the approximately twenty-foot (20') wide strip of land within the Easement Property to be utilized by Grantee for the location of a trail or multi-use path.

(c) Grantee shall have the sole right and responsibility to control, operate, and maintain any trail or multi-use path it constructs or shall cause to be constructed within the Easement Property. To the extent allowed by law, Grantee agrees to hold Grantor harmless from liability for personal injury or property damage arising out of the use of the Easement Property for conservation and trail system purposes; provided, however, this paragraph shall not be construed as a waiver of Grantee's sovereign immunity or waiver of any defense to or any law limiting the liability of either Grantor or Grantee, including but not limited to Official Code of Georgia Annotated Title 51, Chapter 3, Article 2, and Title 44, Chapter 10, Articles 1 and 2, and their respective subsections, and shall not be deemed to create rights upon which any third party may rely; and provided, further, Grantor shall not be held harmless from liability caused by the active conduct or instrumentalities of Grantor, its agents, invitees, or contractors; or by acts of Grantor, its agents, invitees, or contractors which violate the terms and conditions of this Conservation and Trail Easement or for the willful or malicious failure to guard or warn against a dangerous condition, use, structure, or activity.

(d) Grantor and Grantee acknowledge and agree that Grantor retains and owns certain additional property comprising approximately 28.5 acres in Land Lots 96 and 97 of the 8th Land District of Hall County, Georgia, (hereinafter called the "Retained Property") located immediately southeast of and adjacent to the Easement Property. Together, the Easement Property and Retained Property constitute an approximately 32.5-acre tract of land referred to herein as the "Property." Both the Retained Property and Property are more particularly depicted on the Survey contained in Exhibit "A" attached hereto and incorporated herein by this reference. The full acreage of the Property shall be used for purposes of calculating the maximum density of residential development and maximum lot coverage that may occur on the Retained Property.

(e) For the benefit of Grantor and its successors and assigns and the Retained Property, as well as adjacent properties, Grantor hereby reserves the right to continue to use the Easement Property for all purposes not inconsistent with this Conservation and Trail Easement and Grantee's operation of any trail or multi-use path it constructs or shall cause to be constructed within the Easement Property, including but not limited to the construction of a gravity flow sanitary sewer line traversing the Easement Property in a generally northeast to southwest direction and the construction of trail and bridge connections to any multi-use path or trail on the Easement Property from the Retained Property.

(f) The general purpose of this Conservation and Trail Easement is to assure that in the future there is property that retains its present natural, scenic, aesthetic, watershed, wildlife, forest, and habitat condition, and is accessible to members of the general public for recreational and education purposes. Grantee shall have the right to cut trees, grade, and when necessary construct

roads for construction and maintenance of the Easement Property. In all such activities Grantee will attempt to preserve the natural habitat of the Easement Property. Neither Grantor nor Grantee shall have the right to mine the surface or subsurface of the Easement Property in compliance with Code Section 170(h)(5)(B).

(g) The construction of the South Hall Trail System and any and all features thereof, including utilities, pathways, bridges, and other amenities shall be constructed and maintained by Grantee at no cost to Grantor.

(h) The Conservation and Trail Easement may be connected to contiguous portions of the South Hall Trail System that are located on property adjacent to the Easement Property.

(i) No representation is made by Grantee as to the tax implications to Grantor of this transaction.

(j) The covenants, terms, and conditions, and restrictions of this Conservation and Trail Easement shall be binding upon and shall inure to the benefit of, the parties hereto and their respective heirs, executors, administrators, personal representatives, successors and assigns, and shall continue as an easement and servitude running with the Easement Property in perpetuity and enforceable against Grantor and all present and future owners, tenants, and other holders of any interest in the Easement Property.

(k) Nothing contained herein will result in a forfeiture or reversion of Grantor's title, in any respect, and any condition, restriction or other matter contained herein shall be construed as a covenant.

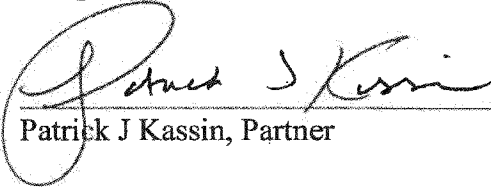
[Signatures follow on the next page.]

IN WITNESS WHEREOF, the Grantor has signed and sealed this Deed of Conservation and Trail Easement, the day and year above written.

Signed, sealed and delivered in the presence of:

GRANTOR

**FLOWERY BRANCH APARTMENTS
OWNER, LLC, a Delaware limited liability
company**


Patrick J Kasson, Partner

ATTEST: _____

(corporate seal)

_____, Secretary

Witness




NOTARY PUBLIC

CHERE A RUCKER
NOTARY PUBLIC
Hall County
State of Georgia
My Comm. Expires August 13, 2024

GRANTEE

CITY OF FLOWERY BRANCH, GEORGIA


Edward R Asbridge, Mayor

ATTEST: 
City Clerk

APPROVED AS TO FORM:

BY: 
City Attorney

DATE: 2/25/2022

EXHIBIT A

DEPICTION OF PROPERTY, EASEMENT PROPERTY, AND RETAINED PROPERTY

**FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY**

SUBJECT: WOODFIELD APARTMENTS ESTOPPEL AGREEMENT

DATE: JULY 21, 2022

(x) RECOMMENDATION

() POLICY DISCUSSION

BUDGET INFORMATION:

() STATUS REPORT

ANNUAL- \$0

() OTHER

CAPITAL- \$0

COUNCIL ACTION REQUESTED ON: JULY 21, 2022

PURPOSE: Consider approving an estoppel agreement in connection with the sale of the Woodfield apartment complex development.

HISTORY: Flowery Branch Apartments Owner, LLC (“Woodfield”) is currently developing an apartment complex located on a portion of 4496 Hog Mountain Road per the land use authorized by Ordinance No. 582, which is attached. Condition No. 6 of this rezoning ordinance required Woodfield to execute and provide the City with a Uniform Deed of Conservation and Trail Easement covering the back part of the subject parcel along I-985. As a condition to connect to sewer, Woodfield also entered into the attached sewer development agreement and amendment.

FACTS AND ISSUES: Woodfield has notified the City that it intends to sell its apartment complex development to Starlight Investments Acquisition, LLC (“Folksong”). As part of its due diligence, Folksong is requesting the City agree that Woodfield has to date complied with conservation and trail easement rezoning condition and certain terms of the sewer development agreement by approving and signing the attached Estoppel Agreement. An estoppel agreement such as this is common in real estate transactions. Its purpose is for a third party (City) to confirm to the buyer (Folksong) that the seller’s representations (Woodfield) are true.

The rezoning condition has been met as shown by the attached recorded Uniform Deed of Conservation and Trail Easement.

The Estoppel Agreement asks the City to agree to the following:

- a. The construction by the Existing Owner of the Connection Project has been completed in full accordance and satisfaction with the Sewer Agreement;
 - b. The City issued the certification of completeness of the Connection Project on July 15, 2022, and accordingly, Section VIII of the Sewer Agreement requires
-
-

the Existing Owner to escrow the Developer's Escrow Contribution in accordance with the terms and provisions thereof on or before July 29, 2022;

- c. The Existing Owner has provided the City with all of the necessary Design Documents, as and when required under the Sewer Agreement; and
- d. The Existing Owner has paid all sums of the Developer's Cash Contribution to the City, as and when required under the Sewer Agreement.

Per the City Manager and/or City Water and Sewer Engineer, these four events have occurred.

Given that Woodfield and/or the City have signed and recorded a Uniform Deed of Conservation and Trail Easement as well as complied with the particular provisions of the sewer development agreement identified in the Estoppel Agreement, staff recommends the city council approve the Estoppel Agreement.

OPTION(S): As all obligations as outlined in the Estoppel Agreement have been met, approve the Estoppel Agreement as presented.

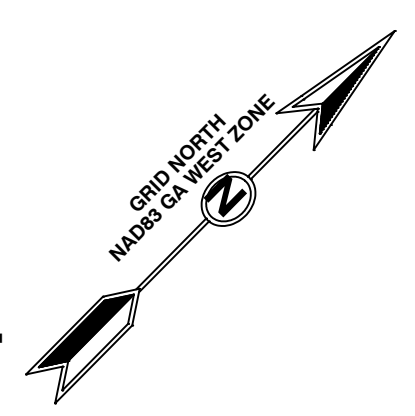
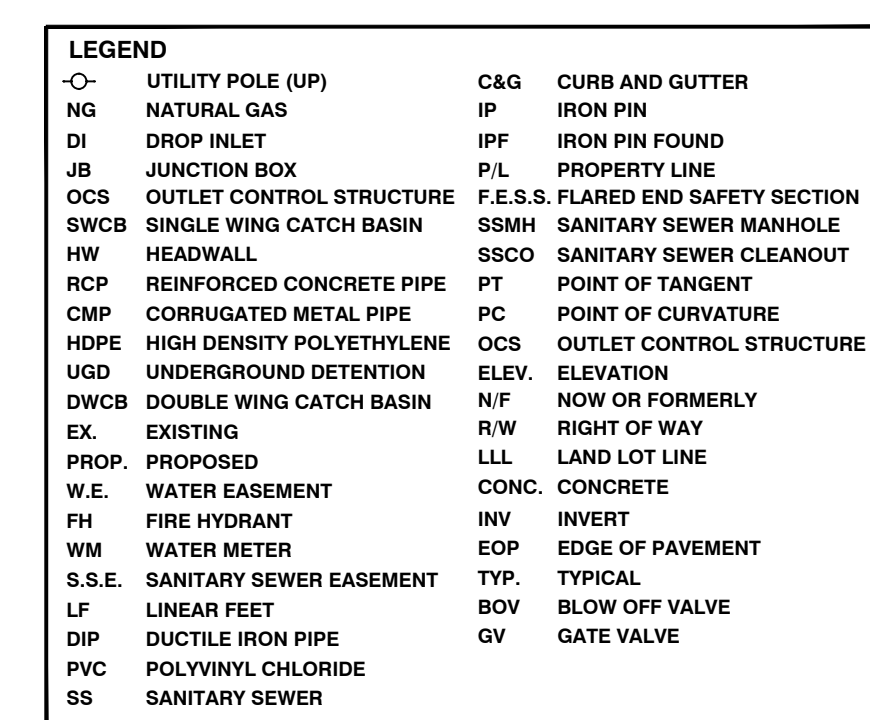
RECOMMENDED SAMPLE MOTION: I make a motion to approve the Estoppel Agreement regarding the Woodfield apartment complex sale as presented.

ATTACHMENTS:

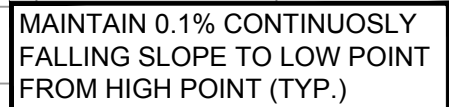
- (1) Woodfield Rezoning Ordinance No. 582
- (2) Sewer Connection Development Agreement
- (3) First Amendment to the Sewer Connection Development Agreement
- (4) Proposed Estoppel Agreement
- (5) Recorded Uniform Deed of Conservation and Trail Easement

DEPARTMENT: Legal

Prepared by: E. Ronald Bennett, Jr.



Scale: 1" = 20'



Horizontal Scale: 1" = 20'

Vertical Scale: 1" = 10'

IF ANY CONFLICTS, DISCREPANCIES, OR ANY OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE FURTHER OPERATION UNTIL THE CONFLICTS, DISCREPANCIES, OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



HENDERSON ENGINEERING
147 TIMBER OAK LANE
DAHLONEGA, GEORGIA 30533
T: 706.864.7252
M: 770.401.6197



<u>REVISION</u>	<u>DATE</u>	<u>DESCRIPTION</u>
-	04-05-21	PERMITTING SET
1	04-28-21	BID READY SET

FORCE MAIN PLAN & PROFILE

HOG MOUNTAIN PUMP STATION

& FORCE MAIN

CITY OF FLOWERY BRANCH
HALL COUNTY, GEORGIA

DRAWN BY:	ACh
DESIGNED BY:	MRH
DATE:	04-05-21
CHECKED BY:	MRH

SHEET NO.

PS.04

PROJECT NO.

HE2021-16

Cross Reference: DB 9087 P 613 – 656

**UPON RECORDING RETURN TO:
Troutman Pepper Hamilton Sanders, LLP
600 Peachtree Street, N.E.
Suite 3000
Atlanta, Georgia 30308
Attn: David C. Kirk**

STATE OF GEORGIA

COUNTY OF HALL

**FIRST AMENDMENT TO THE AGREEMENT
BY AND BETWEEN FLOWERY BRANCH APARTMENTS OWNER, LLC
AND THE CITY OF FLOWERY BRANCH, GEORGIA
FOR ACCESS TO AND MAINTENANCE OF THE SANITARY SEWER SYSTEM**

THIS FIRST AMENDMENT TO THE AGREEMENT (AMENDMENT), is made and entered into effective the ____ day of June 2022, by and between Flowery Branch Apartments Owners, LLC, a Delaware limited liability company, located at 8210 Creedmoor Road, Suite 103, Raleigh, North Carolina 27613, (“DEVELOPER”) and the City of Flowery Branch, Georgia, a Georgia municipal corporation, located at 5410 Pine Street, Flowery Branch, Georgia 30542 (“CITY”).

WHEREAS, DEVELOPER and CITY entered into that certain agreement dated March 22, 2022, 2015 (“ORIGINAL AGREEMENT”) for access to and maintenance of the sanitary sewer system; and

WHEREAS, DEVELOPER and CITY desire to amend the ORIGINAL AGREEMENT, on and subject to the terms and conditions set forth herein.

NOW, THEREFORE, DEVELOPER and CITY agree to amend the ORIGINAL AGREEMENT as follows:

1. Recitals. Each of the foregoing recitals and representations in this Amendment form a material part of this AMENDMENT and are incorporated herein by this reference, and such recitals and representations and the ORIGINAL AGREEMENT are hereby ratified.
2. Paragraph XI. Paragraph XI of the ORIGINAL AGREEMENT is deleted in its entirety and replaced by the following:

“XI. Within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY’s sewer system as described in Paragraph VI of this AGREEMENT, the CITY shall have the right to direct DEVELOPER in writing to install ten (10) foot extensions to raise the height, at DEVELOPER’S expense, of the two manholes shown within the red box on Exhibit E, which is attached hereto and incorporated by reference herein. Upon receipt of such written direction from the CITY, DEVELOPER shall have an additional ninety (90) days to construct/install the manhole extensions, at which time DEVELOPER shall be relieved of any obligations contained in Paragraphs XI and X of this AGREEMENT. Should CITY not exercise its right under this Paragraph XI within ninety (90) calendar days of the certification of completeness of the CONNECTION PROJECT and connection of DEVELOPMENT to the CITY’s sewer system as described in Paragraph VI of this AGREEMENT, DEVELOPER shall have no obligation to raise said manholes.”

EXCEPT AS HEREIN PROVIDED, all other terms and conditions of the ORIGINAL AGREEMENT shall remain the same and the parties hereto do hereby ratify the ORIGINAL AGREEMENT.

IN WITNESS WHEREOF, DEVELOPER and CITY have carefully read and reviewed this AMENDMENT and each term and provision contained herein, and by the execution of this AMENDMENT shows their informed and voluntary consent thereto.

THIS _____ DAY OF JUNE, 2022.

FLOWERY BANCH APARTMENTS OWNER, LLC,
by FLOWERY BRANCH VENTURE, LLP, a
Delaware limited liability partnership and sole manager
of FLOWERY BRANCH APARTMENTS OWNER,
LLC

By: Patrick J. Kassin
Title: _____

Sworn to and subscribed before me
this _____ day of June, 2022.

NOTARY PUBLIC

My commission expires: _____

Signatures Continued Next Page

CITY OF FLOWERY BRANCH, GEORGIA

By: Edward R. Asbridge, Mayor

ATTEST:

Shelia Cooper, City Clerk

EXHIBIT E

ESTOPPEL

THIS ESTOPPEL is made as of the _____ day of July 2022, is agreed to by the undersigned with respect to the following agreements (the “**City Agreements**”):

- A. City of Flowery Branch Uniform Deed of Conservation and Trail Easement dated February 25, 2022 by and between Flowery Branch Apartments Owner, LLC, a Delaware limited liability company (the “**Existing Owner**”) and the City of Flowery Branch, Georgia, a Georgia municipal corporation (the “**City**”) recorded April 27, 2022 in Deed Book 9113, Page 627, Hall County, Georgia records (the “**Trail Easement**”); and
- B. Agreement dated March 22, 2022 by and between the Existing Owner and the City, recorded March 23, 2022 in Deed Book 9087, Page 613, Hall County, Georgia records, as amended by that certain First Amendment to the Agreement By and Between Existing Owner and the City for Access to and Maintenance of the Sanitary Sewer System dated July 21, 2022. (the “**Sewer Agreement**”)

WHEREAS, Existing Owner owns that certain property located at 4496 Hog Mountain Road, City of Flowery Branch, Georgia (the “**Property**”), which Property is burdened by the City Agreements. The undersigned understands and acknowledges that Starlight Investments Acquisition LLC, a Delaware limited liability company (together with its affiliates, successors and/or assigns, “**Purchaser**”) is in negotiations to acquire the fee simple title interest in the Property pursuant to a purchase and sale agreement by and between Existing Owner and the Purchaser and that this estoppel certificate is being made in connection with the proposed acquisition by Purchaser.

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned party hereby certifies to Purchaser that, as of the date hereof:

- 1. The City Agreements are full force and effect, have not been modified or supplemented, and are binding upon the parties thereto.
- 2. No default, breach or uncured violation on the part of the undersigned or the Existing Owner exists under the City Agreements, and no facts or circumstances exist that, with the passage of time or giving of notice, will or could constitute a default, event of default, or breach by the undersigned or the Existing Owner under the City Agreements. Neither the undersigned nor, to the undersigned’s knowledge, the Existing Owner has given or received any notice of default under the City Agreements, which has not been revoked, cured or waived.
- 3. There are no liens against the Property currently being threatened or asserted by the City pursuant to the City Agreements.

4. All charges, security, bonds, and other payments required by the City Agreements, if any, have been paid, posted, or otherwise satisfied in accordance with the terms thereof.

5. There are no pending or, to the knowledge of the undersigned, threatened, actions, suits, claims, or adverse proceedings of any kind with respect to the City Agreements and/or the enforcement thereof, except as described below:

6. With respect to the Sewer Agreement:

- a. The construction by the Existing Owner of the Connection Project has been completed in full accordance and satisfaction with the Sewer Agreement;
- b. The City issued the certification of completeness of the Connection Project on July 15, 2022, and accordingly, Section VIII of the Sewer Agreement requires the Existing Owner to escrow the Developer's Escrow Contribution in accordance with the terms and provisions thereof on or before July 29, 2022;
- c. The Existing Owner has provided the City with all of the necessary Design Documents, as and when required under the Sewer Agreement; and
- d. The Existing Owner has paid all sums of the Developer's Cash Contribution to the City, as and when required under the Sewer Agreement.

Capitalized terms not defined in this Section 6 shall have the meaning set forth in the Sewer Agreement.

7. The undersigned representative is duly authorized and fully qualified to execute this certificate.

8. The undersigned acknowledges and agrees that this certificate is delivered for the benefit of Purchaser, any lender providing financing to with respect to the Property, and any title company issuing title insurance with respect to the Property, and each such parties' successors and/or assigns, and each such party is relying, and each may rely, on the undersigned's certifications set forth herein.

[Remainder of this page intentionally left blank. Signature page to follow.]

IN WITNESS WHEREOF, the undersigned has executed this instrument as the date first set-forth-above.

CITY OF FLOWERY BRANCH, GEORGIA

By: _____

Name: _____

Its: _____



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Lease Commission Agreement with Century 21 Connect Realty

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

The purpose of this agenda item is to request execution of a lease commission agreement with Century 21 Connect Realty as the broker of El Sabor Costeno for the lease of Suite 101 at 5519 Main Street in Flowery Branch, within the Shopping Center on Main Street.

FACTS AND ISSUES:

El Sabor used Century 21 Connect Realty as their broker to find a spot for their restaurant. The listing agreement with Oakhurst Realty noted that the City of Flowery Branch would be responsible for paying the broker's tenant a commission. Three per cent is the customary amount for the commission. Per the signed listing agreement, fifty percent is due now and, "fifty percent (50%) upon the earlier of (i) the rent commencement or (ii) tenant opening for business."

OPTIONS:

- 1) Authorize execution of the lease agreement as presented.
- 2) Do not authorize execution of the lease agreement.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$5,193.36 - General Fund

RECOMMENDATION:

Execute the lease commission agreement with Century 21 Connect Realty.

SAMPLE MOTION:

I move that the city execute the lease commission agreement with Century 21 Connect Realty.

COLLABORATING DEPARTMENT:

DEPARTMENT: Administration

Prepared by: Shelia Cooper

ATTACHMENTS

- [Executive Summary - Century 21 commission agreement.pdf](#)
- [Commercial Lease Commission Agreement3.pdf](#)

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: LEASE COMMISSION AGREEMENT WITH CENTURY 21 CONNECT REALTY

DATE: JULY 21, 2022

BUDGET INFORMATION:
ANNUAL- \$5,193.36
CAPITAL-

☒ **RECOMMENDATION**
☐ **POLICY DISCUSSION**
☐ **STATUS REPORT**
☐ **OTHER**

COUNCIL ACTION REQUESTED ON: JULY 21, 2022

PURPOSE: The purpose of this agenda item is to request execution of a lease commission agreement with Century 21 Connect Realty as the broker of El Sabor Costeno for the lease of Suite 101 at 5519 Main Street in Flowery Branch, within the Shopping Center on Main Street.

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OPTIONS: 1) Authorize execution of the lease agreement as presented.
2) Do not authorize execution of the lease agreement.

RECOMMENDED SAMPLE MOTION: I move that the city execute the lease commission agreement with Century 21 Connect Realty.

DEPARTMENT: Administration

Prepared by: Tonya Parrish

THIS LEASE COMMISSION AGREEMENT (this "Agreement") dated 8/4/2022 (the "Effective Date") by and between The City of Flowery Branch (together with its successors and assigns, "Landlord") Century 21 Connect Realty ("Broker").

WITNESSETH:

WHEREAS, Landlord and Broker are endeavoring to procure an agreement (the "Lease") to lease space (the "Premises") located at 5519 Main St. Suite 101 Flowery Branch, GA 30542,
_____, _____ (the "Project") to (select one):

☐ (A) a prospective tenant ("Tenant"); or

☒ (B) El Sabor Costeno Taqueria LLC ("Tenant").

WHEREAS, Landlord recognizes that valuable services have been rendered by Broker in negotiating and procuring the Lease.

NOW THEREFORE, for and in consideration of Ten and No/100 Dollars (\$10.00), the mutual covenants and conditions contained herein, the services rendered by Broker and other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, the parties hereto do hereby agree as follows:

1. COMMISSION.

- (A) **INITIAL TERM.** In the event a Lease is executed by Tenant and Landlord within 30 (thirty) days following the Effective Date, Landlord shall pay Broker a commission as follows: 3 (three) percent of the base rent of the gross of the lease Landlord hereby expressly authorizes Broker to share the commission with any other licensed real estate broker or brokers in any proportion determined by Broker.
- (B) **EXTENSIONS, RENEWALS AND EXPANSIONS.** In connection with (i) any renewal or extension of the term of the Lease, and/or any other continuation of the occupancy of the Premises by Tenant (whether pursuant to a new lease, lease amendment or otherwise) and/or (ii) any expansion of the Premises or leasing of additional premises by Tenant at the Project (provided Tenant has not appointed another broker in writing other than Broker to represent Tenant's interests with respect to such renewal, extension or continuation), Landlord shall pay Broker a commission as follows: n/a
- (C) **PAYMENT.** Landlord shall pay Broker said commission in immediately available U.S. funds at the office of Broker or at such other address as Broker may designate in writing.
- (D) **APPLICABILITY TO OTHER PREMISES.** The above stated commissions shall not only apply to the Premises but to other substituted premises whether in the same building within the Project or in any other building owned or developed by the Landlord (provided Tenant has not appointed another broker in writing other than Broker to represent Tenant on the matter in question).

- 2. **TERMINATION OR CANCELLATION OF THE LEASE.** Upon the execution of the Lease (or as of the Effective Date in the event the Lease has been fully executed as of the Effective Date), neither voluntary cancellation of the Lease nor any nonpayment of rentals consented to by the Landlord or resulting from any agreement between the Landlord and the Tenant shall nullify or terminate Broker's right to collect commissions due for the remaining term of the Lease or any renewal, extension, or expansion by Tenant as set forth herein. In the event that Broker is receiving an over-the-term commission and the Premises are condemned, or sold under threat of or in lieu of condemnation, Landlord shall, immediately upon receipt by Landlord of the condemnation

award or sale proceeds, pay Broker its commission, discounted to its present cash value at the prime rate of interest (as set forth in the Money Rates Section of The Wall Street Journal, or, if no longer published, any successor or comparable publication selected by Landlord) (the "Prime Rate"), which would otherwise be due through the end of the term contracted for by the Tenant, excluding any unexercised renewals, extensions, or expansions of the Lease.

3. SALE OF PREMISES.

(A) **COMMISSION DUE IN CONNECTION WITH SALE.** In the event that Landlord sells, conveys title or otherwise transfers ownership of the Premises, and/or the Project in which the Premises is located, to Tenant or an affiliate of Tenant during the Lease term or any extension or renewal thereof, or within n/a (n/a) months after the expiration of the Lease term (including any exercised renewal thereof), Landlord shall pay to Broker a commission payable in cash at closing, in lieu of any future leasing commissions coming due under this Agreement, equal to n/a (n/a%) percent of the sales price. In the event that the Lease is terminated as a result of such purchase and sale transaction, then Landlord shall receive a credit against such commission in an amount equal to the unamortized portion of such commission (i.e. the portion of such commission actually paid by Landlord to Broker for the portion of the Lease term that would have occurred after the closing date of such purchase and sale transaction). The terms of this Section 3(A) shall survive the expiration or termination of this Agreement.

(B) **OBLIGATIONS TO BROKER UPON TRANSFER.** Upon Landlord's sale conveyance of title or other transfer of ownership of the Premises to Tenant or any other party, Landlord shall notify Broker of such conveyance or transfer. Landlord shall remain fully bound by all of the terms, covenants, agreements, provisions, conditions, obligations and liability of Landlord under this Agreement which accrue from and after the effective date of such transfer unless Landlord's transferee assumes such obligations from Landlord in writing. If Landlord's transferee assumes such obligations as of the effective date of such transfer, Landlord shall provide to Broker a copy of the agreement pursuant to which such transferee assumed such obligations. In the event that Landlord's transferee does not assume such obligations as of the effective date of such transfer, Landlord shall be and remain liable for all commissions due Broker from and after the closing date of such transfer.

4. **INTEREST ON PAST DUE AMOUNTS.** Any and all payments that are past due under this Agreement shall bear interest at the Prime Rate plus 0 percent (0 %).

5. **BROKER/AGENCY RELATIONSHIPS.** Pursuant to Regulation 520-1.06 of the Georgia Real Estate Commission's Regulations and Georgia's Brokerage Relationships in the Real Estate Transactions Act, O.C.G.A. Section 10-6A-1 et. seq. ("BRRETA"), Landlord hereby acknowledges that Broker makes the following disclosures, checking all that apply:

☐ (A) Broker represents the Landlord only; or

☒ (B) Broker represents the Tenant only; or

☐ (C) Broker represents both the Landlord and _____ jointly and such dual agency is expressly consented to by the parties by their execution of a Dual Agency Disclosure and Consent Agreement; or

☐ (D) Broker has assigned Broker's affiliated license # _____ to represent solely the Landlord as its designated agent and has assigned Broker's affiliated licensee # _____ to represent solely _____ as its designated agent; or

☐ (E) Broker represents neither Landlord, nor Tenant, but rather Broker is acting as a transactional broker for both parties pursuant to BRRETA.

☐ (F) Broker has no other known agency relationships which would conflict with the interest of the client whom the Broker represents as indicated above in this Section 5 except as follows: _____
_____ Broker shall have no duty to Landlord greater

than what is set forth in BRRETA, Official Code of Georgia Annotated Section 10-6A-1 et. seq. Broker shall keep confidential all information received by the Broker during the course of the engagement which is made confidential by an express request or instruction from the client whom the Broker represents as indicated above in this Section 5 unless such client permits such disclosure by subsequent work or conduct, or such disclosure is required by law; provided, however that the client acknowledges that disclosures between a Broker and any of the Broker's affiliated licensees assisting the Broker in representing the client shall not be deemed to breach this duty of confidentiality described above. FURTHERMORE, PURSUANT TO O.C.G.A. SECTION 10-6A-1 ET SEQ. (BRRETA), IN THE EVENT BROKER IS ACTING IN THE CAPACITY OF A DUAL OR DESIGNATED AGENT, BROKER SUBMITS HERewith TO LANDLORD A COPY OF BROKER'S BROKERAGE RELATIONSHIP POLICIES.

6. **BINDING EFFECT; PARTIES BOUND.** The terms "Landlord", "Broker" and "Tenant" as used herein shall mean and refer to the parties originally named herein and their respective heirs, representatives, affiliates, successors and assigns. This Agreement shall inure to the benefit of and be binding on the parties hereto, their respective heirs, representatives, affiliates, successors and assigns.
7. **MISCELLANEOUS.** Neither this Agreement nor any of the rights, duties or benefits hereunder may be assigned by either party hereto without the prior written consent of the other party hereto. This instrument contains the entire agreement and understanding to the parties hereto with respect to the subject matter contained herein. No representation, promise or inducement not included in this Agreement shall be binding on any party hereto. This Agreement may be modified only in writing signed by the party against which enforcement of the modification is asserted. This Agreement may be executed in multiple counterparts, each of which shall be deemed to be an original, but all of which taken together shall constitute one and the same instrument. Any counterpart of this Agreement may be executed and delivered by facsimile or electronic transmission, which shall have the same force and effect as an original. The date of this Agreement shall be the Effective Date. This Agreement cannot be amended or canceled except by an agreement in writing executed by each of the parties hereto. This Agreement shall be governed by and construed in accordance with the laws of the State of Georgia. Time is of the essence of this Agreement. No failure of any party to exercise any power given hereunder or to insist upon strict compliance with any obligation specified herein, and no custom or practice at variance with the terms hereof, shall constitute a waiver of either party's right to demand exact compliance with the terms hereof. If the time period by which any right, option or election provided under this Agreement must be exercised, or by which any act required hereunder must be performed, expires on a Saturday, Sunday or legal holiday, then such time period shall be automatically extended to the close of business on the next regular business day.
8. **ADDITIONAL PROVISIONS.** If there is an Addendum of Special Stipulations attached to this Agreement or any special stipulations listed below this Section, then such terms are incorporated herein by this reference, and in the event of any conflict between the foregoing provisions of this Agreement and any of the special stipulations contained in such addendum or listed below, then the provisions of such special stipulations shall control.

ATLANTA COMMERCIAL BOARD OF REALTORS, INC. ("ACBR") DISCLAIMER; WAIVER AND RELEASE OF CLAIMS. This "Disclaimer; Waiver and Release of Claims" provision, without any changes, modifications, deletions or revisions, must be included in all ACBR Form documents that include any reference to ACBR. The parties hereto hereby acknowledge and agree that: (A) THIS DOCUMENT HAS IMPORTANT CONSEQUENCES, LEGAL, FINANCIAL AND OTHERWISE, AND ACBR HAS ADVISED THE PARTIES THAT THEY SHOULD EACH CONSULT WITH AN ATTORNEY OR OTHER PROFESSIONAL OF THEIR CHOICE WITH RESPECT TO THE TERMS OF, AND/OR THE COMPLETION, MODIFICATION AND/OR EXECUTION OF, THIS DOCUMENT; (B) form documents by their nature are designed to be of general application, and may not be applicable to specific facts and circumstances, may not address a given party's specific conditions or requirements and/or may not reflect the relative bargaining or negotiations of the parties, as such variables may arise on any given transaction; (C) to avoid any possible misunderstanding or confusion as to the original form of this document and any revisions, modifications or changes to it, any and all revisions, modifications or changes to the original should be made readily apparent by highlighting, underscoring or other means to distinguish them from the original ACBR form; (D) ACBR has made the original versions of this document and other document forms available to ACBR's members as a service, but makes no representation or warranty, express or implied, as to the suitability or applicability of the terms and conditions of, or the enforceability of, this document or other document forms; (E) ACBR document forms are updated by ACBR from time to time, and ACBR strongly recommends to the parties that they use the most current, updated versions of any such document forms; and (F) by executing this document the parties hereto each hereby waive and release ACBR, its officers, directors, members,

employees and agents, from any and all claims, demands and/or causes of action (whether known or unknown) arising out of, pertaining to or resulting directly or indirectly from the use of this form document.

-Signatures on Following Page-

IN WITNESS WHEREOF, the parties hereto, intending to be legally bound, have caused this Agreement to be executed, under seal, in their respective names and on their behalf by their duly authorized officials, the day and year set forth below.

LANDLORD: The City of Flowery Branch

Signature: _____ (Seal)

Name: Edward R. Ashbridge

Title: Mayor

Phone: 770.967.6371

Date: _____

**"Attest:
Shelia Cooper, City Clerk**

BROKER: Century 21 Connect Realty

Signature:  (Seal)

Name: Janet Thomas

Title: Realtor

Firm: Century 21 Connect Realty

Firm License #: H-54812

Phone: 770.640.6800

Date: 5/25/2022

Agent Name(s): Janet Thomas

Agent License #(s): 386757

Add additional names & License #'s of other agents involved in connection with this transaction.



FLOWERY BRANCH CITY COUNCIL

EXECUTIVE SUMMARY



SUBJECT: Award Construction of 250,000 Gallon Elevated Water Tank to Phoenix Fabricators & Erectors

COUNCIL MEETING DATE: July 21, 2022

HISTORY:

Currently there is a 60,000 gallon water tank behind the Public Works Complex on Gainesville Street. The tank is no longer adequately sized nor is it high enough for the needs of the City of Flowery Branch.

FACTS AND ISSUES:

The City issued a solicitation for the bid and received two bids on the tank. The lowest bid is approximately \$500 lower than the other bid received. Construction is anticipated to be approximately one year from the time of award on this project; although, every project completion is dependent on supply chain issues at the time. The low bidder has communicated that they believe it will be done within one year. The City of Flowery Branch has a loan from GEFA for several water projects including this one, and the estimated amount was approximately \$2 million (for this specific project).

OPTIONS:

- 1) Award the contract to Phoenix Fabricators & Erectors.
- 2) Award the contract to Caldwell Tanks.
- 3) Do not award the contract.

IF FUNDING IS INVOLVED, ARE FUNDS APPROVED IN THE CURRENT BUDGET:

Yes

AMOUNT AND SOURCE OF FUNDS:

\$2,479,571 - Water/Wastewater Capital Fund (GEFA loan)

RECOMMENDATION:

SAMPLE MOTION:

I move that the city award and approve the contract to Phoenix Fabricators & Erectors for the construction of the 250,000 gallon elevated water tank project for an amount not to exceed \$2,479,571; and, authorize the Mayor to sign the contract subject to the City Attorney's approval.

COLLABORATING DEPARTMENT:

Water/Wastewater

DEPARTMENT: Administration

ATTACHMENTS

- [FB Bid 22-008 Phoenix Ltr of Rec.pdf](#)
- [FB 22-008 Bid Tabulation.pdf](#)
- [Executive Summary - award 250,000 gallon elevated water tank Phoenix.pdf](#)
- [FB 22-008 Water Tank 1 Improvements Contract Set of Specifications.pdf](#)

INFRATEC CONSULTANTS

310 Saddle Hill Court, Roswell, GA 30075
770.596.1984 |

July 8, 2022

Tonya Parrish, City Manager
City of Flowery Branch
5410 Pine Street
Flowery Branch, Georgia 30542

Re: Elevated Water Tank 1 Improvements
Flowery Branch Bid #22-008

Dear Tonya Parrish:

We have reviewed and tabulated the bids received on the above referenced project and find Phoenix Fabricators and Erectors, LLC. of Avon, Indiana to be the low bidder in the amount of \$2,479,571.00.00. We are enclosing a copy of our certified bid tabulation sheet for your use.

It is the recommendation of Infratec Consultants that the City award the project to Phoenix Fabricators & Erectors LLC.

Upon your concurrence, we will forward the contract documents to the contractor for execution. If you have any questions, please contact us.

Sincerely,
Infratec Consultants, Inc.

C. Keith Hendrix

C. Keith Hendrix, PE

Electronic CC: Jimmy Dean, City of Flowery Branch
Matthew Hamby, City of Flowery Branch
Bill Whidden, City of Flowery Branch

Certified Bid Tabulation

Owner: City of Flowery Branch, Georgia						Engineer: Infratec Consultants C. Keith Hendrix, PE	
Project Name: Elevated Water Tank 1 Improvements, Flowery Branch Bid#22-008							
Bid Date & Time: July 7, 2022, 2:00 P.M.							
Contractor				Phoenix Fabricators & Erectors		Caldwell Tanks	
NO.	UNIT PRICE ITEM	QTY	UNITS	UNIT PRICE	TOTAL PRICE	UNIT PRICE	TOTAL PRICE
Part I							
A.	250,000 gallon water storage tank lump sum	1	LS	\$2,415,571.00	\$ 2,415,571.00	\$ 2,445,750.00	\$ 2,445,750.00
Part I Subtotal					\$ 2,415,571.00		\$ 2,445,750.00
Part II	UNIT PRICES						
1.	Silt Fence	500	LF.	\$10.00	\$ 5,000.00	\$7.00	\$ 3,500.00
2.	Hay Bales	250	L.F.	\$10.00	\$ 2,500.00	\$10.00	\$ 2,500.00
3.	Rip Rap (DOT Type 1)	10	S.Y.	\$150.00	\$ 1,500.00	\$75.00	\$ 750.00
4.	#57 Gravel Drive Replacement	200	Tons	\$75.00	\$ 15,000.00	\$40.00	\$ 8,000.00
5.	Grassing (Temporary)	0.5	Ac.	\$5,000.00	\$ 2,500.00	\$2,000.00	\$ 1,000.00
6.	Grassing (Permanent)	0.5	Ac.	\$5,000.00	\$ 2,500.00	\$3,000.00	\$ 1,500.00
7.	Construction Exit	2	EA	\$5,000.00	\$ 10,000.00	\$500.00	\$ 1,000.00
8.	Geotechnical Testing Allowance	1	L.S.	\$25,000.00	\$ 25,000.00	\$25,000.00	\$ 25,000.00
Part II Subtotal					\$ 64,000.00		\$ 43,250.00
Grand Total I and II					\$ 2,479,571.00		\$ 2,489,000.00

FLOWERY BRANCH CITY COUNCIL
EXECUTIVE SUMMARY

SUBJECT: Award construction of 250,000 gallon elevated water tank to Phoenix Fabricators & Erectors

DATE: JULY 21, 2022

BUDGET INFORMATION:
ANNUAL-
CAPITAL-\$2,479,571

☒ **RECOMMENDATION**
☐ **POLICY DISCUSSION**
☐ **STATUS REPORT**
☐ **OTHER**

COUNCIL ACTION REQUESTED ON: JULY 21, 2022

PURPOSE: The purpose of this agenda item is to request an award to the lowest responsible, responsive bidder to our invitation to bid for the 250,000 elevated water tank.

HISTORY: Currently there is a 60,000 gallon water tank behind the Public Works Complex on Gainesville Street. The tank is no longer adequately sized nor is it high enough for the needs of the City of Flowery Branch.

FACTS AND ISSUES: The City issued a solicitation for the bid and received two bids on the tank. The lowest bid is approximately \$500 lower than the other bid received. Construction is anticipated to be approximately one year from the time of award on this project; although, every project completion is dependent on supply chain issues at the time. The low bidder has communicated that they believe it will be done within one year. The City of Flowery Branch has a loan from GEFA for several water projects including this one, and the estimated amount was approximately \$2 million (for this specific project).

OPTIONS: 1) Award the contract to Phoenix Fabricators & Erectors.
2) Award the contract to Caldwell Tanks.
3) Do not award the contract.

RECOMMENDED SAMPLE MOTION: I move that the city award and approve the contract to Phoenix Fabricators & Erectors for the construction of the 250,000 gallon elevated water tank project for an amount not to exceed \$2,479,571; and, authorize the Mayor to sign the contract subject to the City Attorney's approval.

DEPARTMENT: Administration

Prepared by: Tonya Parrish

Contract Documents

For

**City of Flowery Branch
Hall County, Georgia**

Elevated Water Tank 1 Improvements

May 2022

Prepared By:

Infratec Consultants, Inc.

INFRASTRUCTURE TECHNOLOGY

**310 Saddle Hill Ct.
Roswell, Georgia 30075**

Infratec Project No.: FBR 18003



CONTRACT SET

Date: June 21, 2022

Owner: City of Flowery Branch, Georgia

Project: Elevated Water Tank 1 Improvements

Flowery Branch Bid # 22-008

ADDENDUM NUMBER ONE

1. The following Addendum hereby amends and/or modifies the Contract Documents and any previous addenda as indicated and as issued by Infratec Consultants. All Bidders are subject to the provisions of this Addendum. Bidders shall acknowledge receipt of this Addendum on the Bid Form.
2. Change all references for the bid date to: Thursday, July 7, 2022, 2:00 PM, local time.
3. This project will be funded through the Georgia Environmental Finance Authority (GEFA). Add the enclosed Section 0015-GEFA Supplemental General Conditions; Section 0016 – Davis Bacon Wage Rates; and Section 0017-GEFA American Iron and Steel Special Conditions to the Bidding Documents. The Contractor shall comply with all additional bidding and construction requirements as outlined in the GEFA documents.
4. Remove and Replace Section 09800-Steel Water Tank 1 with the enclosed specification noted with Addendum No One. The paint specification has been updated to the upcoming potable water standards.
5. Remove and Replace Section 13412-Elevated Storage Tank No 1 with the enclosed specification noted with Addendum No One.
6. In Section 0013, C-700 Standard General Conditions; Article 6- Contractor's Responsibilities; Paragraph B under 6.02 Labor; Workings Hours; strike the words Saturday and Sunday.

End of Addendum Number One

Keith Hendrix, PE
404-861-6956
kh.infratec@aol.com

GEORGIA ENVIRONMENTAL FINANCE AUTHORITY

SUPPLEMENTAL GENERAL CONDITIONS

for

FEDERALLY ASSISTED
STATE REVOLVING LOAN FUND
CONSTRUCTION CONTRACTS

May 9, 2014

The following standard language must be incorporated into construction contract documents and in all solicitations for offers and bids for all construction contracts or subcontracts in excess of \$10,000 to be funded in whole or in part by the Federally-assisted State Revolving Fund in the State of Georgia.

These Supplemental General Conditions shall not relieve the participants in this project of responsibility to meet any requirements of other portions of this construction contract or of other agencies, whether these other requirements are more or less stringent. The requirements in these Supplemental General Conditions must be satisfied in order for work to be funded with the State Revolving Fund.

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INSTRUCTIONS & GENERAL REQUIREMENTS

It is the policy of the State Revolving Loan Fund (SRF) to promote a fair share of subcontract, materials, equipment and service awards to small, minority, and women-owned businesses for equipment, supplies, construction, and services. Compliance with these contract provisions is required in order for project costs to be eligible for SRF funding. The fair share objective is a goal, not a quota. Failure on the part of the apparent successful bidder to submit required information to the loan recipient (Owner) may be considered by the Owner in evaluating whether the bidder is responsive to bid requirements.

THE PRIME CONTRACTOR MUST SUBMIT THE FOLLOWING ITEMS TO THE OWNER:

A. Before beginning the work of any contract:

- 1) **DBE Compliance Form and related documentation.** The Owner must submit this information to the Georgia Environmental Finance Authority (GEFA) to demonstrate compliance with Disadvantaged Business Enterprise (DBE) requirements. GEFA concurrence is recommended prior to award of the construction contract and is required prior to commencement of any SRF-funded construction. (Pages GEFA-4&5)
- 2) **Certification Regarding Equal Employment Opportunity.** This form is required for the Prime Contractor and for all subcontractors. The Prime Contractor form should be submitted with the DBE Compliance Form, and the subcontractor forms should be submitted as the subcontracts are executed. (Page GEFA-9)
- 3) **Certification Regarding Debarment, Suspension, & Other Responsible Matters.** This form is required for the Prime Contractor and for all subcontractors. The Prime Contractor form should be submitted with the DBE Compliance Form and the subcontractor forms should be submitted as the subcontracts are executed. (Page GEFA-10)
- 4) ***EPA Form 6100-2 DBE Subcontractor Participation Form.** This form gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from the Prime Contractor, how much the DBE subcontractor was paid, and any concerns the DBE subcontractor might have. The Prime Contractor must provide this form to each DBE subcontractor. The DBE subcontractor can, as an option, complete and submit this form to the GEFA DBE Coordinator, who will also forward the form to the EPA DBE Coordinator. (Page GEFA-11)
- 5) ***EPA Form 6100-3 DBE Subcontractor Performance Form.** This form captures the description of work to be performed by an intended DBE subcontractor and the price of the work. This form is to be provided by the Prime Contractor to each DBE subcontractor and submitted with the DBE Compliance Form. (Page GEFA-12)
- 6) ***EPA Form 6100-4 DBE Subcontractor Utilization Form.** This form captures intended or anticipated use of an identified DBE subcontractor by the Prime Contractor and the estimated dollar amount of the work. This form is to be completed by the Prime Contractor and submitted with the DBE Compliance Form. (Page GEFA-13)

* 6100 FORMS ARE NOT REQUIRED WHEN ALL OF THE WORK IS SELF-PERFORMED BY THE PRIME CONTRACTOR.

B. During the performance of the contract:

- 7) **Changes to Subcontractors Form.** If any changes, substitutions, or additions are proposed to the subcontractors included in previous GEFA concurrences, the Owner must submit this information to GEFA for prior concurrence in order for the affected subcontract work to be eligible for SRF funding. (Page GEFA-14)
- 8) **DBE Annual Report.** The Owner must submit this information to GEFA no later than October 20th of any year that the construction contract is active. (Page GEFA-15)
- 9) **Certified Payrolls.** These should be submitted to the Owner weekly for the Prime Contractor and all subcontractors. The Owner must maintain payroll records and make these available for inspection. Use Department of Labor form WH-347 or a similar form that contains all of the information on the Department of Labor.

THE OWNER MUST SUBMIT INFORMATION FOR GEFA REVIEW AND CONCURRENCE TO:

Georgia Environmental Finance Authority
Attention: DBE Compliance Coordinator
233 Peachtree Street, N.E.
Harris Tower, Suite 900
Atlanta, Georgia 30303
(404)584-1000; (404)584-1069 (fax)
dbe_compliance@gefa.ga.gov

GEFA-3

DBE COMPLIANCE FORM

ALL INFORMATION OUTLINED ON THIS FORM IS REQUIRED FOR DBE COMPLIANCE REVIEW. THE PROPOSED PRIME CONTRACTOR AND OWNER SHOULD ENSURE THAT THIS INFORMATION IS COMPLETE PRIOR TO SUBMITTAL.

Loan Recipient _____

SRF Loan Number _____

PRIME CONTRACTOR'S AND OWNER'S CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this firm has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants and that EPA Forms 6100-2 and 6100-3 were distributed to all DBE subcontractors.

(Prime Contractor signature)

Date _____

(Printed name and title)

I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Owner's State Revolving Fund loan contract.

(Signature of Owner or Owner's representative)

Date _____

(Printed name and title)

CONTACT INFORMATION

Owner contact _____

Owner phone number & email _____

Consulting Engineer contact _____

Consulting Engineer phone number & email _____

Proposed Prime Contractor _____

Prime Contractor contact _____

Prime Contractor phone number & email _____

Proposed total contract amount \$ _____

Proposed total MBE participation \$ _____ Percentage _____ Goal: 4.0 percent

Proposed total WBE participation \$ _____ Percentage _____ Goal: 4.0 percent

CONTINUED ON NEXT PAGE

Please submit the following with the DBE Compliance Form:

- 1) List of all committed and uncommitted subcontractors by trade, including company name, address, telephone number, contact person, dollar amount of subcontract, and DBE/MBE/WBE status.
- 2) Indicate in writing if no solicitations were made because the Prime Contractor intends to use only its own forces to accomplish the work.
- 3) Proof of certification by EPA, SBA, DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA criteria) for each subcontractor listed as a DBE, MBE, or WBE.
- 4) Documentation of solicitation efforts for prospective DBE firms, such as fax confirmation sheets, copies of solicitation letters and e-mails, printout of online solicitations, printouts of online search results and copies and affidavits of publication in newspapers or other publications. (see also, "Six Good Faith Efforts", page GEFA-7).
 - a. The Prime Contractor shall use the necessary resources to identify and directly solicit no less than 3 certified MBE firms and 3 certified WBE firms to bid in each expected subcontract trade or area. If a diligent and documented search of the recommended directories does not identify 3 potential certified MBE firms and 3 potential certified WBE firms, then the Prime Contractor shall post an advertisement in the Owner's local legal organ, the Owner's official website, a regional newspaper in a larger community in the proximity, the Prime Contractor's website, or some other appropriate resource.
 - b. The Prime Contractor is encouraged to follow-up each written, fax, or e-mail solicitation with at least 1 logged phone call.
 - c. Whenever possible, post solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- 5) Written justification for not selecting a certified DBE subcontractor that submitted a low bid for any subcontract area.
- 6) Certification By Proposed Prime Contractor or Subcontractor Regarding Equal Employment Opportunity (GEFA-9)
- 7) Certification By Proposed Prime or Subcontractor Regarding Debarment, Suspension, and Other Responsible Matters. (GEFA-10)
- 8) *EPA Form 6100-3 DBE Subcontractor Performance Form for all DBE subcontracts. (GEFA-12)
- 9) *EPA Form 6100-4 DBE Subcontractor Utilization Form for all DBE subcontracts. (GEFA-13)

*6100 forms are not required when all of the work is self-performed by the prime contractor.

END OF DBE COMPLIANCE FORM



DBE COMPLIANCE CHECKLIST

THE PRIME CONTRACTOR MUST SUBMIT THE FOLLOWING ITEMS TO THE OWNER BEFORE THE WORK BEGINS:

Loan Recipient _____

SRF Loan Number _____

Include in Package Submittal

PRIME CONTRACTOR ONLY	TOTAL CONTRACT AMOUNT	
ALL SUBCONTRACTORS, INCLUDING DBE FIRMS	TRADE	AMOUNT
ALL SUBCONTRACTORS, INCLUDING DBE FIRMS	TRADE	AMOUNT
DBE SUBCONTRACTORS ONLY	TRADE	AMOUNT
DBE SUBCONTRACTORS ONLY	TRADE	AMOUNT
PRIME CONTRACTOR ONLY <i>(Not applicable if self-performing all work, with no subcontracting)</i>		

1. **DBE Compliance Form.** The Owner must sign and submit this information to the Georgia Environmental Finance Authority (GEFA) to demonstrate compliance with DBE requirements. GEFA concurrence is recommended prior to award of the construction contract and is required prior to commencement of any SRF-funded construction. (Pages GEFA-4&5)

2. **Certification Regarding Equal Employment Opportunity.** This form is required for the Prime Contractor and for all subcontractors. The Prime Contractor's form should be submitted with the DBE Compliance Form and the subcontractors' forms should be submitted as the subcontracts are executed. (Page GEFA-9)

3. **Certification Regarding Debarment, Suspension, & Other Responsible Matters.** This form is required for the Prime Contractor and for all subcontractors. The Prime Contractor's form should be submitted with the DBE Compliance Form and the subcontractors' forms should be submitted as the subcontracts are executed. (Page GEFA-10)

4. **EPA Form 6100-2 DBE Subcontractor Participation Form.** This form gives a DBE subcontractor the opportunity to describe the work the DBE subcontractor received from Prime Contractor, how much the DBE subcontractor was paid, and any other concerns the DBE subcontractor might have. The Prime Contractor must provide this form to each DBE subcontractor. The DBE subcontractor can, as an option, submit this form to the GEFA DBE Coordinator, who will forward the form to the EPA DBE Coordinator. (Page GEFA-11)

5. **EPA Form 6100-3 DBE Subcontractor Performance Form.** This form captures an intended DBE subcontractor's description of work to be performed for the Prime Contractor and the price of the work. This form is to be provided by the Prime Contractor to each DBE subcontractor and submitted with the DBE Compliance Form. (Page GEFA-12)

6. **EPA Form 6100-4 DBE Subcontractor Utilization Form.** This form captures the Prime Contractor's intended use of an identified DBE subcontractor and the estimated dollar amount of the work. This form is to be completed by the Prime Contractor and submitted with the DBE Compliance Form (Page GEFA-13)

Uncommitted Trades

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Documentation of Good Faith Efforts

Newspaper ads	Internet Websites	Fax Confirmation	Copies of Solicitation Emails/letters	Copies of phone logs
PROOF OF CERTIFICATION FOR EACH SUBCONTRACTOR LISTED AS A DBE, MBE, OR WBE				

SIX GOOD FAITH EFFORTS

These good faith efforts are required methods to ensure that DBEs have the opportunity to compete for procurements funded by EPA financial assistance dollars. Such good faith efforts are described as follows:

1. Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. This will include placing DBEs on solicitation lists and soliciting them whenever there are potential sources.
2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. This will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
5. Use the resources, services, and assistance of the Department of Transportation (DOT), Small Business Administration (SBA), and the Minority Business Development Agency of the Department of Commerce (MBDA).
6. If the Prime Contractor awards subcontracts, it must take the steps described in items (1) through (5) listed above.

Please note that DBEs, MBEs, and WBEs must be certified by EPA, SBA, or DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA's). DBEs must be certified in order to be counted toward the Prime Contractor's MBE/WBE goals. "Self-certified" DBE subcontractors will not be counted toward the Prime Contractor's MBE/WBE goals. Depending upon the certifying agency, a DBE may be classified as a DBE, a Minority Business Enterprise (MBE), or a Women's Business Enterprise (WBE).

The Prime Contractor must employ and document the Six Good Faith Efforts for all subcontracts, even if the Prime Contractor has achieved the fair share objectives.

The documentation of solicitations for the Six Good Faith Efforts must be detailed in order to allow for satisfactory review. Such documentation might include fax confirmation sheets, copies of solicitation letters/emails, printouts of the online solicitations, printouts of online search results and affidavits of publication in newspapers or other publications. The Prime Contractor is encouraged to follow up each written, fax, or e-mail solicitation with at least 1 logged phone call.

The Prime Contractor should attempt to identify and solicit DBEs in the geographic proximity of the project before soliciting those located farther away.

If a DBE subcontractor fails to complete work under the subcontract for any reason, the Prime Contractor must notify the Owner in writing prior to any termination and must employ the Six Good Faith Efforts described above if using a replacement subcontractor. Any proposed changes from the approved DBE subcontractor list must be reported to the Owner and to GEFA on the *Changes to Approved Subcontractors Form* (GEFA-14) prior to initiation of the action. EPA Forms Nos. 6100-3 and 6100-4 must also be submitted to GEFA for new DBE subcontracts.

RESOURCES FOR IDENTIFYING DBE SUBCONTRACTORS

RESOURCES FOR IDENTIFYING DBE SUBCONTRACTOR'S FOR DIRECT SOLICITATION:

Georgia Department of Transportation (GDOT)
Disadvantaged Business Enterprise Program
(404) 631-1972

http://tomcat2.dot.state.ga.us/ContractsAdministration/uploads/rptDBE_Directory_CA_New.pdf

City of Atlanta, Georgia
Office of Contract Compliance
(404) 330-6010
<http://pro.prismcompliance.com/>

DeKalb County, Georgia
Office of Purchasing and Contracting
(404) 371-4730
<http://www.co.dekalb.ga.us/purchasing/pdf/supplierList.pdf>

Fulton County, Georgia
Purchasing and Contract Compliance
(404) 612-5800
http://www.fultoncountyga.gov/plugins/content/external_links/frameset.php?url=http%3A%2F%2Fwww.occfultoncountyga.com%2FDirectory%2FMBEDirectoryExternal.aspx

Metropolitan Atlanta Rapid Transit Authority (MARTA)
Disadvantaged Business Enterprise Program
(404) 848-4656
<http://www.itsmarta.com/vendor-opportunities.aspx>

United States Environmental Protection Agency
http://www.epa.gov/osbp/dbe_team.htm
Teree Henderson
National DBE Program Coordinator
(202) 566-2222
henderson.teree@epa.gov

Georgia Environmental Finance Authority
DBE Compliance Coordinator
(404) 584-1000
www.gefa.ga.gov
db_compliance@gefa.ga.gov

NOTES:

- (1) The Prime Contractor shall use the necessary resources to identify and directly solicit no less than 3 certified MBE firms and 3 WBE firms to bid in each expected subcontract area or trade.
- (2) If a diligent and documented search of the recommended directories does not identify 3 potential certified MBE firms and 3 potential certified WBE firms, then the Prime Contractor shall post an advertisement in the Owner's local legal organ, the Owner's official website, a regional newspaper in a larger community in the proximity, the Prime Contractor's website, or some other appropriate resource. Whenever possible, post solicitation for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
- (3) Expenditures to a DBE that acts merely as a broker or passive conduit of funds, without performing, managing, or supervising the work of its subcontract in a manner consistent with normal business practices may not be counted.
- (4) The Prime Contractor should attempt to identify and first solicit DBEs in the geographic proximity of the project before soliciting those located farther away.
- (5) Contact the GEFA DBE Compliance Coordinator at (404) 584-1000 or db_compliance@gefa.ga.gov for further assistance or resources.

CERTIFICATION BY PROPOSED PRIME CONTRACTOR OR SUBCONTRACTOR
REGARDING
EQUAL EMPLOYMENT OPPORTUNITY

Proposed Prime Contractor
Proposed Subcontractor

This certification is required pursuant to Executive Order 11246, Part II, Section 203 (b), (30 F.R. 12319-25). Any bidder or prospective prime contractor, or any of the proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the prime or subcontractor has not filed a compliance report due under applicable instruction, such contractor shall be required to submit a compliance report.

(1) Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
YES _____ NO _____

(2) Compliance Reports were required to be filed in connection with such contract or subcontract.
YES _____ NO _____ (If YES, state what reports were filed and with what agency.)

(3) Bidder has filed all compliance reports due under applicable instructions, including SF-100 (EEO-1 Report).
YES _____ NO _____ (If NO, please explain in detail.)

The information above is true and complete to the best of my knowledge and belief. (A willfully false statement is punishable by law – U.S. Code, Title 18, Section 1001.)

PRINTED NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR OR SUBCONTRACTOR

SIGNATURE OF AUTHORIZED REPRESENTATIVE

DATE

**CERTIFICATION BY PROPOSED PRIME CONTRACTOR OR SUBCONTRACTOR
REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBLE MATTERS**

Proposed Prime Contractor
Proposed Subcontractor

Under Executive Order 12549 individuals or organizations debarred from participation in Federal Assistance Programs may not receive an assistance award under federal program or sub-agreement there under for \$25,000 or more. Accordingly each recipient of a State loan or a contract (engineering or construction) awarded under a loan must complete the following certification (see 40 CFR 32.510).

The prospective participant certifies to the best of its knowledge and belief that it and its principals;

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- (d) Have not within a three year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause of default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. (A willfully false statement is punishable by law – U.S. Code, Title 18, Section 1001.)

PRINTED NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR OR SUBCONTRACTOR

SIGNATURE OF AUTHORIZED REPRESENTATIVE

DATE

_____ I am unable to certify to the above statements. My explanation is as follows:

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Participation Form

An EPA Financial Assistance Agreement Recipient must require its prime contractors to provide this form to its DBE subcontractors. This form gives a DBE¹ subcontractor² the opportunity to describe work received and/or report any concerns regarding the EPA-funded project (e.g., in areas such as termination by prime contractor, late payments, etc.). The DBE subcontractor can, as an option, complete and submit this form to the EPA DBE Coordinator at any time during the project period of performance.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Received from the Prime Contractor Involving Construction, Services , Equipment or Supplies	Amount Received by Prime Contractor

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Performance Form

This form is intended to capture the DBE¹ subcontractor's² description of work to be performed and the price of the work submitted to the prime contractor. An EPA Financial Assistance Agreement Recipient must require its prime contractor to have its DBE subcontractors complete this form and include all completed forms in the prime contractors bid or proposal package.

Subcontractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Prime Contractor Name		Issuing/Funding Entity:	

Contract Item Number	Description of Work Submitted to the Prime Contractor Involving Construction, Services , Equipment or Supplies	Price of Work Submitted to the Prime Contractor
DBE Certified By: ___ DOT ___ SBA ___ Other: _____		Meets/ exceeds EPA certification standards? ___YES ___NO ___Unknown

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

² Subcontractor is defined as a company, firm, joint venture, or individual who enters into an agreement with a contractor to provide services pursuant to an EPA award of financial assistance.

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract.

An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package.

Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name		Project Name	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact	
Address			
Telephone No.		Email Address	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	___ YES	___ NO	
If yes, please complete the table below. If no, please explain:			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?

Continue
on back
if needed

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

CHANGES TO APPROVED SUBCONTRACTORS FORM

Loan Recipient _____ SRF Loan Number _____

CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this firm has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants.

(Prime Contractor signature) Date _____

(Printed name and title)

I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Owner's State Revolving Fund loan contract.

(Signature of Owner or Owner's representative) Date _____

(Printed name and title)

GENERAL INFORMATION:

- 1) If an approved subcontractor is terminated or replaced, please identify this company and briefly state reason.

Subcontractor Name::	Trade
Reason Terminated or Replaced	

- 2) For new or additional subcontractors, list name, trade, address, telephone number, contact person, dollar amount of subcontract, and DBE status.

New Subcontractor Name and Contact Person	Trade
Address	Telephone Number
Dollar Amount	DBE Status

- 1) Attach proof of certification by EPA, SBA, DOT (or by state, local, Tribal, or private entities whose certification criteria match EPA's) for each subcontractor listed as a DBE, MBE, or WBE.
- 2) Attach documentation of Six Good Faith Efforts solicitation effort for all new subcontracts.
- 3) Provide justification for not selecting any certified DBE subcontractor that submitted a low bid for any subcontract area.
- 4) For each subcontractor, attach certifications regarding Equal Employment Opportunity (GEFA-9) and certifications regarding Debarment, Suspension, and Other responsible Matters (GEFA-10)

DBE ANNUAL REPORT
FORM (5700-52A)

This form must be completed by recipients of federal financial assistance for procurement of supplies, equipment, construction or services. SRF loan recipients are required to submit this report to GEFA by the 20th of October for the previous period of October 1 through September 30. Please submit a "negative" report even if \$0 is the amount paid to MBE/WBE subcontractors during the reporting period.

ANNUAL REPORT FORM (5700-52A)			
1. PRIME CONTRACTOR		2. REPORTING PERIOD (Complete date using current year.) Period Ending (September 30, _____)	
3. SUBMIT TO: Georgia Environmental Finance Authority Attention: DBE Compliance Coordinator 233 Peachtree Street, N.E. Harris Tower, Suite 900 Atlanta, Georgia 30303 dbe_compliance@gefa.ga.gov		4. LOAN RECIPIENT (Name, Address and Telephone)	
5. LOAN RECIPIENT (OWNER) REPORTING CONTACT	PHONE:	6. TYPE OF FEDERAL FINANCIAL ASSISTANCE PROGRAM (Check one) CWSRF _____ DWSRF _____	7. SRF LOAN NUMBER
8. CONTRACTOR NAME & TOTAL CONSTRUCTION CONTRACT AMOUNT		9. ACTUAL DOLLAR AMOUNT PAID TO MBE/WBE SUBCONTRACTORS THIS PERIOD \$ MBE _____ \$ WBE _____ NEGATIVE REPORT (\$0) ____	
10. RECIPIENT'S MBE/WBE GOALS MBE 4.0 % WBE 4.0 %		11. TOTAL DOLLARS SPENT THIS PERIOD MBE \$ _____ WBE \$ _____ NON MBE/WBE \$ _____ TOTAL \$ _____	
12. NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF LOAN RECIPIENT (OWNER).		13. SIGNATURE OF AUTHORIZED REPRESENTATIVE OF LOAN RECIPIENT.	14. DATE
MBE/WBE PAYMENTS MADE DURING PERIOD			
NAME & ADDRESS of DBE (SUB)CONTRACTOR (indicate if MBE or WBE firm)		TOTAL DOLLAR AMOUNT PAID & DATE PAID \$ _____ DATE _____	

SPECIAL PROVISIONS

- (a) The Prime Contractor is required to pay its subcontractors in accordance with the Georgia Prompt Payment Act (OCGA 13-11).
- (b) The Prime Contractor is required to insert the entirety of the Davis Bacon contract requirements into all subcontracts
- (c) Sewer line and water line crossing of all roads and streets shall be done in accordance with the Georgia Department of Transportation (D.O.T.) Policies and Procedures and must comply with the Ga. D.O.T. Standard Specifications, Construction of Roads and Bridges, 1993 Edition.
- (c) Construction shall be carried out so as to prevent bypassing of wastewater flow and to prevent interruption of drinking water treatment during construction. EPD must receive written notification prior to any reduction in the level of treatment and must approve all temporary modifications to the treatment process prior to the activity.
- (d) Erosion and Sedimentation Control shall be accomplished in accordance with the Georgia Erosion and Sedimentation Control Act of 1975 as currently amended and NPDES General Permits (Storm Water from Construction Sites). See also www.gaepd.org and www.gaswcc.georgia.gov for information regarding permits.
- (e) Use of Chemicals: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer reactant or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in conformance with State and local regulations as appropriate.
- (f) It is the duty of the Prime Contractor, the Owner and the Engineer to ensure the construction of the project, including the letting of contracts in connection therewith, shall comply with all applicable laws and regulations and requirements of the United States of America or any agency thereof, the state of Georgia or any agency thereof, territorial, or any local government laws or political subdivision and ordinances to the extent that such requirements do not conflict with Federal laws and this subchapter.
- (g) EPD, EPA, and GEFA shall have access to the site and the project work at all times.

BONDS

Bonding requirements for Contracts of \$100,000 or less are contained in the General Conditions. Bond requirements of contracts in excess of \$100,000 are:

1. Bid guarantee equivalent to five percent of the bid price. The bid guarantee shall consist of a firm commitment such as a certified check or bid bond submitted with the bid.
2. Performance bond equal to 100 percent of the contract price and;
3. Payment bond equal to 100 percent of the contract price. Bonds must be obtained from companies holding Certificates of Authority as acceptable sureties, issued by the U.S. Treasury.

SPECIAL NOTICE TO BIDDERS

By the submission of this bid, each bidder acknowledges that he understands and agrees to be bound by the equal opportunity requirements of EPA regulations (40 CFR Part 8, particularly Section 8.4 (b)), which shall be applicable throughout the performance of work under any contract awarded pursuant to this solicitation. Each bidder agrees that if awarded a contract, it will similarly bind contractually each subcontractor. In implementation of the foregoing policies, each bidder further understands and agrees that if awarded a contract, it must engage in affirmative action directed at promoting and ensuring equal employment opportunity in the workforce used under the contract (and that it must require contractually the same effort of all subcontractors whose subcontracts exceed \$10,000.00). The bidder understands and agrees that "affirmative action" as used herein shall constitute a good faith effort to achieve and maintain minority employment in each trade in the on-site workforce used on the project.

EQUAL EMPLOYMENT OPPORTUNITY NOTICE

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the Equal Opportunity Clause which is included in the nondiscrimination Provision and Labor Standards, EPA Form 5720-4 and the Standard Federal Equal Employment Opportunity (EEO) Construction Contract Specifications set forth herein.
2. The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation for each trade	4.0 percent
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Goals for female participation for each trade	4.0 percent
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These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minority and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation to the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. The contractor shall carry out applicable requirements of 40CFR Part 33 in the award and administration of contracts awarded under EPA financial assistance agreements. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical area where the contract is to be performed giving the state, county and city, if any).

EEO Construction Contract Specifications (Executive Order 11246)

EEO Specifications:

1. As used in these specifications:
 - a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
 - b. "Director" means Director, Office of Federal Contract Compliance Program, United States Department of Labor, or any person to whom the Director delegates authority;
 - c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form, 941.
 - d. "Minority" includes:
 - (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
 - (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).
2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.
3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.
4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7(a) through (p) of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.
 - c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever actions the Contractor may have taken.
 - d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
 - e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trained programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7(b) above.
 - f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

- g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
 - h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
 - i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.
 - j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.
 - k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
 - l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
 - m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
 - n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.
8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations 7(a) through (p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant may be asserted as fulfilling any one or more of its obligations under 7(a) through (p) of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes

a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.
11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Davis-Bacon and Related Acts

Labor Standards Provisions for Federally Assisted Contracts

Contract Provision for Contracts in Excess of \$2,000.

(1) Minimum wages.

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

Subrecipients may obtain wage determinations from the U.S. Department of Labor's web site, <http://www.dol.gov/whd/govcontracts/dbra.htm> (E-tools)

(ii)(A) The subrecipient(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the subrecipient(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the subrecipient (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the subrecipient(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) Withholding. The subrecipient(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the subrecipient, that is, the entity that receives the sub-grant or loan from the State capitalization grant recipient. Such documentation shall be available on request of the State recipient or EPA. As to each payroll copy received, the subrecipient shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly

payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/whd/forms> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the subrecipient(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the subrecipient(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees--

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the

meaning of this clause include disputes between the contractor (or any of its subcontractors) and Subrecipient(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.

(10) Certification of eligibility.

(i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

Contract Provision for Contracts in Excess of \$100,000.

(a) Contract Work Hours and Safety Standards Act. The subrecipient shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.

(3) Withholding for unpaid wages and liquidated damages. The subrecipient, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.

(b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the Subrecipient shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the Subrecipient shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job

(5) Compliance Verification:

(a) The subrecipient shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(6), all interviews must be conducted in confidence. The subrecipient must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.

(b) The subrecipient shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, the subrecipient should conduct interviews with a representative group of covered employees within two weeks of each contractor or subcontractor's submission of its initial weekly payroll data and two weeks prior to the estimated completion date for the contract or subcontract. Subrecipients must conduct more frequent interviews if the initial interviews or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. Subrecipients shall immediately conduct necessary interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.

(c) The subrecipient shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The subrecipient shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the subrecipient should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. Subrecipients must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the subrecipient shall verify evidence of fringe benefit plans and payments thereunder by contractors and subcontractors who claim credit for fringe benefit contributions.

(d) The subrecipient shall periodically review contractors and subcontractors' use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.

(e) Subrecipients must provide a report of compliance to the Georgia Environmental Finance Authority detailing compliance efforts and results. This report will be submitted with or prior to the loan recipient's first request for funding of construction costs, prior to final disbursement of funds from the loan, and as requested by the GEFA during the project.

(f) Subrecipients must immediately report potential violations of the DB prevailing wage requirements to the EPA DB coordinator and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/whd/america2.htm>.

INSERT WAGE RATE DETERMINATION HERE

Wage Rates (for *Heavy Construction*) are state/county specific can be found at:

<http://www.dol.gov/whd/govcontracts/dbra.htm>

Sample Payroll Form (WH-347) is found at:

<http://www.dol.gov/whd/forms/wh347.pdf>

Labor Standards Interview Form (SF-1445) is found at:

<http://www.gsa.gov/portal/forms/download/115910>

Davis-Bacon (WH-1321) poster is found at:

<http://www.dol.gov/whd/regs/compliance/posters/fedprojc.pdf>
(English)

<http://www.dol.gov/whd/regs/compliance/posters/davispan.pdf>
(Spanish)

Fair Labor Standards Act Minimum Wage poster is found at:

<http://www.dol.gov/whd/regs/compliance/posters/minwagebwp.pdf>
(English)

<http://www.dol.gov/whd/regs/compliance/posters/minwagespbwP.pdf>
(Spanish)

“EEO Is the Law” poster is found at:

http://www.eeoc.gov/employers/upload/eeoc_self_print_poster.pdf
(English)

http://www.eeoc.gov/employers/upload/eeoc_self_print_poster_spanish.pdf
(Spanish)

“EEO Is the Law” poster supplement is found at:

http://www.eeoc.gov/employers/upload/eeoc_gina_supplement.pdf
(English)

http://www.eeoc.gov/employers/upload/eeoc_gina_supplement_spanish.pdf
(Spanish)

OSHA poster is found at:

<http://www.osha.gov/Publications/osa3165low-res.pdf>
(English)

<http://www.osha.gov/Publications/osa3167.pdf>
(Spanish)

CERTIFIED PAYROLL REVIEW CHECKLIST

(This is a *recommended Certified Payroll Review Checklist for the Owner's use.*)

CONTRACT ID City of CW/DWSRF#00 - 000	PRIME CONTRACTOR/SUBCONTRACTOR X Construction
GENERAL WAGE DECISION AND DATE (Insert number & date)	PAYROLL PERIOD ENDING

INSTRUCTIONS: This checklist is to be used in conjunction with projects requiring Davis-Bacon Wage Rates and compliance reviews. All certified payrolls are to be date stamped upon receipt from the prime contractor.

Payroll Information Checklist:

- _____ Prime Contractor's or subcontractor's name and address
- _____ Contract ID numbers (GEFA SRF No.)
- _____ Week ending.
- _____ Project location.

- _____ Employee ID or Last 4 digits of Social Security Number
 - _____ Social Security Number removed
 - _____ Employee's work classification
 - _____ Identification of OJTs, apprentices and program levels (%) on payrolls.
 - _____ Verify that OJT and Apprentice Program documentation is in project files.

- _____ Daily and weekly employee hours worked in each job classification.
 - _____ Daily and weekly employee overtime (or premium) hours worked
 - _____ Total weekly hours worked on all jobs (prevailing and non-prevailing wage).
 - _____ Base rate shown for each employee, overtime (or premium) rate shown when worked.
 - _____ Verify correct wage rates are being paid.
 - _____ Verify overtime is being paid correctly (over 40 hrs/wk, and Time and a half)
 - _____ Week's gross wages
 - _____ Week's itemized deductions.
 - _____ Week's net wages paid

- _____ Compliance statement attached.
 - _____ Method of fringe benefit payment described by checking either box (4)(a) or (4)(b).
 - _____ Fringe benefit package information in file and updated as needed (if 4(a) is checked)
 - _____ Exceptions explanation for fringe benefit (4)(c).
 - _____ Signature.

Compliance Review Checklist (for field reviews):

- _____ Verify work classifications reported are consistent with the work performed.
- _____ Compare payrolls with wage rate interviews when conducted.
- _____ Compare number of employees and hours worked with project documentation.

REVIEWED BY:	DATE
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Attached are the Davis Bacon Wage Rates (Heavy Construction) for Hall County, Georgia.

"General Decision Number: GA20210071 04/16/2021

Superseded General Decision Number: GA20200071

State: Georgia

Construction Type: Heavy

Heavy Construction, Includes Water and Sewer Lines, and Heavy Construction on Treatment Plant Sites and Industrial Sites (Refineries, Power Plants, Chemical and Manufacturing Plants, Paper Mills, Etc.)

County: Hall County in Georgia.

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	04/16/2021

* ELEC0613-022 09/01/2020

	Rates	Fringes
ELECTRICIAN.....	\$ 33.00	31%

ENGI0926-019 07/01/2020		

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Crane, Mechanic.....	\$ 32.63	13.83

 SUGA2012-101 08/11/2012

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 15.44	0.00
CARPENTER, Excludes Form Work....	\$ 14.76	0.00
CEMENT MASON/CONCRETE FINISHER...	\$ 16.96	0.00
IRONWORKER, REINFORCING.....	\$ 13.30	1.66
LABORER: Common or General.....	\$ 9.84	0.00
LABORER: Pipelayer.....	\$ 11.17	0.92
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 14.46	0.00
OPERATOR: Bulldozer.....	\$ 14.58	0.00
OPERATOR: Grader/Blade.....	\$ 20.24	0.00
OPERATOR: Loader.....	\$ 16.59	4.13
OPERATOR: Piledriver.....	\$ 18.72	2.06
OPERATOR: Roller.....	\$ 12.04	0.69
TRUCK DRIVER: Dump Truck.....	\$ 12.79	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 17.28	1.84

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a

new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

GEORGIA ENVIRONMENTAL FINANCE AUTHORITY

AMERICAN IRON AND STEEL

SPECIAL CONDITIONS AND INFORMATION

For

**FEDERALLY ASSISTED
STATE REVOLVING LOAN FUND
CONSTRUCTION CONTRACTS**

April 11, 2014

The following standard language must be incorporated into construction contract documents and in all solicitations for offers and bids for all construction contracts or subcontracts to be funded, in whole or in part, through the Federally-assisted State Revolving Fund in the State of Georgia for projects subject to the American Iron and Steel requirements.

These Special Conditions shall not relieve the participants in this project of responsibility to meet any requirements of other portions of this construction contract or of other agencies, whether these other requirements are more or less stringent. The requirements in these Special Conditions must be satisfied in order for work to be funded with the State Revolving Fund.

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GENERAL REQUIREMENTS

These Special Conditions are based on guidance provided by the United States Environmental Protection Agency (EPA). Public Law 113-76, the Consolidated Appropriations Act, 2014 (Act), includes an “American Iron and Steel” (AIS) requirement that requires State Revolving Loan Fund (SRF) assistance recipients to use iron and steel products that are produced in the United States for projects in this project. A copy of Section 436 of the Act is found in Appendix 3.

The products and materials subject to these requirements will be defined in Appendix 1 of these special conditions.

The Owner must maintain documentation of compliance with the AIS requirements. The documentation that the Owner maintains will be subject to review and audit by representatives of the state of Georgia, the EPA, the EPA Office of the Inspector General, and other federal authorities.

The Prime Contractor must provide certifications of compliance for all products subject to AIS requirements to the Owner prior to requesting payments for those products. The Owner or the Engineer may require certifications of compliance with submittals and shop drawings for these products as part of the submittal review process.

All manufacturing processes for a covered iron or steel product, as further defined in Appendix 1, must take place in the United States. If a covered product is taken out of the US for any part of the manufacturing process, it becomes foreign source material.

The EPA recommends the use of a step certification process to document the locations of the manufacturing processes involved with the production of steel and iron materials. A step certification is a process under which each handler (supplier, fabricator, manufacturer, processor, etc.) of the iron and steel products certifies that its step in the process was domestically performed. Each time a step in the manufacturing process takes place, the manufacturer delivers its work along with a certification of its origin. A certification should include the name of the manufacturer, the location of the manufacturing facility where the product or process took place (not its headquarters), a description of the product or item being delivered, and a signature by a manufacturer’s responsible party. Attached in Appendix 2 is a sample step certification.

Alternatively, the final manufacturer that delivers the iron or steel product to the worksite, vendor, or contractor, may provide a certification asserting that all manufacturing processes for the product and for its iron and steel components occurred in the United States. The EPA states that additional documentation may be needed if the certification lacks important information and recommends step certification as the best practice. A sample final manufacturer certification is attached in Appendix 2.

The Prime Contractor may document that incidental and generally low cost components, as defined in Appendix 1, are compliant with AIS requirements under the De Minimis Waiver issued by the EPA. For these items, the Contractor must provide the Owner with documentation of costs for these items, including invoices, and a report of types and categories of materials to which the waiver is applied, the total cost of incidental components covered by the waiver for each category, and the calculations by which the total cost of materials incorporated into the project was determined. A sample De Minimis report is attached in Appendix 2.

Contractor, supplier, and manufacturer records are subject to review and audit by the EPA, its Inspector General, and other federal authorities.

Failure to comply with these requirements may delay, limit, or prevent the disbursement of SRF funds to the Owner. Violations of AIS requirements will require correction by the Contractor as determined by the Owner and Engineer, including replacement of deficient products with compliant products and compensation for costs and other damages that may result. Violations may also subject the Owner, the Contractor, and suppliers to other enforcement actions within the discretion of the EPA and other federal authorities.

The Act permits EPA to issue waivers for a case or category of cases in which EPA finds (1) that applying these requirements would be inconsistent with the public interest; (2) iron and steel products are not produced in the US in sufficient and reasonably available quantities and of a satisfactory quality; or (3) inclusion of iron and steel products produced in the US will increase the cost of the overall project by more than 25 percent. The Contractor should notify the Owner and Engineer immediately if it finds that a waiver may be required.

By submitting a bid for this project and by executing this construction contract, the Contractor acknowledges to and for the benefit of the Owner and the state of Georgia that it understands that the goods and services under this Agreement are being funded with monies made available by the Clean Water State Revolving Fund or the Drinking Water State Revolving Fund and that Federal law authorizing these Funds contains provisions commonly known as "American Iron and Steel" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Owner and the state of Georgia that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Owner or the state of Georgia. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Owner or the state of Georgia to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Owner or the state of Georgia resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the state of Georgia or any damages owed to the state of Georgia by the Owner). The Owner and the Contractor agree that the state of Georgia, as a lender to the Owner for the funding of its project, is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the state of Georgia.

Appendix 1 – Definitions

For purposes of the Clean Water State Revolving Fund (CWSRF) and Drinking Water State Revolving Fund (DWSRF) projects that must comply with the AIS requirement, an iron or steel product is one of the following made primarily of iron or steel that is permanently incorporated into the project:

Lined or unlined pipes or fittings;
Manhole Covers;
Municipal Castings (defined in more detail below);
Hydrants;
Tanks;
Flanges;
Pipe clamps and restraints;
Valves;
Structural steel (defined in more detail below);
Reinforced precast concrete (defined in more detail below); and
Construction materials (defined in more detail below).

Product primarily of iron or steel: The product must be made of greater than 50% iron or steel, measured by cost. If one of the listed products is not made primarily of iron or steel, United States (US) provenance is not required, except as required for reinforced precast concrete. If a product is composed of more than 50% iron or steel, but is not listed in Section 436 (a) (2) of the Act, it is not required to be produced in the US. Alternatively, the iron or steel in such a product can be sourced from outside the US.

Steel: An alloy that includes at least 50 percent iron and between 0.02 and 2 percent carbon and may include other elements. Other alloys of iron are not required to be produced in the US.

Produced in the United States: Production in the US of the iron or steel products used in the project requires that all manufacturing processes, including application of coatings, must take place in the United States, with the exception of metallurgical processes involving refinement of steel additives. All manufacturing processes includes processes such as melting, refining, forming, rolling, drawing, finishing, fabricating and coating. Further, if a domestic iron and steel product is taken out of the US for any part of the manufacturing process, it becomes foreign source material. However, raw materials such as iron ore, limestone and iron and steel scrap are not covered by the AIS requirement, and the material(s), if any, being applied as a coating are similarly not covered. Non-iron or steel components of an iron and steel product may come from non-US sources. For example, for products such as valves and hydrants, the individual non-iron and steel components do not have to be of domestic origin.

Municipal Castings: Municipal castings are cast iron or steel infrastructure products that are melted and cast. They typically provide access, protection, or housing for components incorporated into utility owned drinking water, storm water, wastewater, and surface infrastructure. They are typically made of grey or ductile iron, or steel. Examples of municipal castings include access hatches, ballast screen, benches, bollards, cast bases, cast iron hinged hatches, cast iron riser rings, catch basin inlets, cleanout/monument boxes, construction covers and frames, curb and corner guards, curb openings, detectable warning plates, downspout shoes, drainage grates, frames & curb inlets, inlets, junction boxes, lampposts, manhole covers, rings & frames, risers, meter boxes, steel hinged hatches, steel riser rings, trash receptacles, tree grates, tree guards, trench grates, and valve boxes.

Structural Steel: Structural steel is rolled flanged shapes, having at least one dimension of their cross-section 3 inches or greater, which are used in the construction of bridges, buildings, ships, railroad rolling stock, and for numerous other constructional purposes. Such shapes are designated as wide-flange shapes, standard I-beams, channels, angles, tees and zees. Other shapes include H-piles, sheet piling, tie plates, cross ties, and those for other special purposes.

Reinforced Precast Concrete: While reinforced precast concrete may not be at least 50% iron or steel, in this particular case, the reinforcing rebar must be produced in the US and meet the same standards as for any other iron or steel product. Additionally, the casting of the concrete product must take place in the US. The cement and other raw materials used in concrete production are not required to be of domestic origin. If the reinforced concrete is cast at the construction site, the reinforcing rebar is considered to be a construction material and must be produced in the US.

Construction Materials subject to AIS: Construction materials are those articles, materials, or supplies made primarily of iron and steel, that are permanently incorporated into the project, not including mechanical and/or electrical components, equipment and systems. Some of these products may overlap with what is also considered “structural steel”. This includes, but is not limited to, the following products: welding rods, wire rod, bar, angles, concrete reinforcing bar, wire, wire cloth, wire rope and cables, tubing, framing, joists, trusses, fasteners (i.e., nuts and bolts), decking, grating, railings, stairs, access ramps, fire escapes, ladders, wall panels, dome structures, roofing, ductwork, surface drains, cable hanging systems, manhole steps, fencing and fence tubing, guardrails, doors, gates, and screens.

Construction Materials not subject to AIS: Mechanical and/or electrical components, equipment and systems are not considered construction materials. Mechanical equipment is typically that which has motorized parts and/or is powered by a motor. Electrical equipment is typically any machine powered by electricity and includes components that are part of the electrical distribution system.

The following examples, including their appurtenances necessary for their intended use and operation, are NOT considered construction materials: pumps, motors, gear reducers, drives, variable frequency drives (VFDs), mixers, blowers/aeration equipment, compressors, meters, electric/pneumatic/manual accessories used to operate valves (such as valve actuators), gates, motorized screens (such as traveling screens), sensors, controls, switches, supervisory control and data acquisition (SCADA), membrane bioreactor systems, membrane filtration systems, filters, clarifiers and clarifier mechanisms, rakes, grinders, disinfection systems, dewatering equipment, presses (including belt presses), conveyors, cranes, HVAC (excluding ductwork), water heaters, heat exchangers, generators, cabinetry and housings (such as electrical boxes/enclosures), lighting fixtures, electrical conduit, emergency life systems, metal office furniture, shelving, laboratory equipment, and analytical instrumentation.

Items temporarily used during construction, which are removed from the project site upon completion of the project, are not required to be made of U.S. Iron or Steel. For example, trench boxes or scaffolding are not considered construction materials subject to AIS requirements.

Incidental Components compliant with AIS under the De Minimis Waiver: This waiver permits the use of de minimis incidental components that may otherwise be prohibited under AIS. These de minimis items may cumulatively comprise no more than a total of 5 percent of the total cost of the materials used in and incorporated into the project. The cost of an individual item may not exceed 1 percent of the total cost of the materials used in and incorporated into the project.

These items are miscellaneous, generally low-cost components that are essential for, but incidental to, the construction and are permanently incorporated into the project. For many of these incidental components, the country of manufacture and the availability of alternatives are not always readily or reasonably identifiable prior to procurement in the normal course of business. For other incidental components, the country of manufacture may be known, but the miscellaneous character in conjunction with the low cost, individually and in total, as typically procured in bulk, mark them as properly incidental. Examples of incidental components include small washers, screws, fasteners (i.e., nuts and bolts), miscellaneous wire, corner bead, ancillary tube.

Examples of items that are not incidental and are not covered by the De Minimis Waiver include significant process fittings (i.e., tees, elbows, flanges, and brackets), distribution system fittings and valves, force main valves, pipes for sewer collection and/or water distribution, treatment and storage tanks, large structural support structures.

Items covered as compliant under this waiver must be documented in a report to the Owner to demonstrate that they are both incidental and that they fall within the cost allowances of this waiver. The costs of these items must be documented by invoices. The report must include a listing of types and categories of materials to which the waiver is applied, the total cost of incidental components covered by the Waiver for each category, and the calculations by which the total cost of materials incorporated into the project was determined.

Appendix 2 – Sample Certifications

Step Certification

The following information is provided as a sample letter of step certification for American Iron and Steel compliance. Documentation must be provided on company letterhead. This is to be provided by each handler (supplier, fabricator, manufacturer, processor, etc.). Each time a step in the manufacturing process takes place, the handler delivers its work along with a certification of its origin.

Date

Company Name

Company Address

City, State Zip

Subject: American Iron and Steel Step Certification for Project (Insert project name and SRF number)

I, (company representative), certify that the (melting, bending, coating, galvanizing, cutting, etc.) process for (manufacturing or fabricating) the following products and/or materials shipped or provided for the subject project is in full compliance with the American Iron and Steel requirement as mandated in EPA's State Revolving Fund Programs.

List of items, products and/or materials:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

Appendix 2 – Sample Certifications

Final manufacturer certification

The following information is provided as a sample letter of the final manufacturer to certify American Iron and Steel compliance for the entire manufacturing process. Documentation must be provided on company letterhead.

Date

Company Name
Company Address
City, State Zip

Subject: American Iron and Steel Certification for Project (Insert project name and SRF number)

I, (company representative), certify that the following products and/or materials shipped/provided to the subject project are in full compliance with the American Iron and Steel requirement of P.L. 113-76 and as mandated in EPA's State Revolving Fund Programs.

List of items, products and/or materials:

If any of the above compliance statements change while providing material to this project we will immediately notify the prime contractor and the engineer.

Signed by company representative

Appendix 2 – Sample Certifications Contractor De Minimis Report

Owner: (Owner Name)

SRF Project No: (SRF Number)

Project Description: (Contract title or brief description)

Date: (Date of report)

Submitted by (name & title): (Contractor representative)
Company Name

LIST OF MATERIALS COST OR CATEGORIES OF MATERIALS PERMANENTLY INCORPORATED INTO THE PROJECT

Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00
Category or Item	\$1,000.00

Total Permanent Materials **\$10,000.00**

1 % of total material cost	\$100.00	Maximum cost for individual item waived
5 % of total material cost	\$500.00	Maximum cumulative cost for category waived

LIST OF MATERIALS COST COMPLIANT OR CATEGORIES OF MATERIALS (Yes/No) COVERED BY DE MINIMIS WAIVER

Category or Item	\$100.00	Yes
Category or Item	\$100.00	Yes
Category or Item	\$100.00	Yes
Category or Item	\$100.00	Yes
Category or Item	\$100.00	Yes

Total De Minimis Items **\$500.00** **Yes**

INVOICES ATTACHED FOR DE MINIMIS ITEMS.

Appendix 3 – P.L. 113-76, Consolidated Appropriations Act, 2014

The Act states:

Sec. 436 (a)(1) None of the funds made available by a State water pollution control revolving fund as authorized by title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) or made available by a drinking water treatment revolving loan fund as authorized by section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j–12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system or treatment works unless all of the iron and steel products used in the project are produced in the United States.

(2) In this section, the term “iron and steel products” means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials.

(b) Subsection (a) shall not apply in any case or category of cases in which the Administrator of the Environmental Protection Agency (in this section referred to as the “Administrator”) finds that—

(1) applying subsection (a) would be inconsistent with the public interest;

(2) iron and steel products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or

(3) inclusion of iron and steel products produced in the United States will increase the cost of the overall project by more than 25 percent.

(c) If the Administrator receives a request for a waiver under this section, the Administrator shall make available to the public on an informal basis a copy of the request and information available to the Administrator concerning the request, and shall allow for informal public input on the request for at least 15 days prior to making a finding based on the request. The Administrator shall make the request and accompanying information available by electronic means, including on the official public Internet Web site of the Environmental Protection Agency.

(d) This section shall be applied in a manner consistent with United States obligations under international agreements.

(e) The Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean and Drinking Water State Revolving Funds for carrying out the provisions described in subsection (a)(1) for management and oversight of the requirements of this section.

(f) This section does not apply with respect to a project if a State agency approves the engineering plans and specifications for the project, in that agency’s capacity to approve such plans and specifications prior to a project requesting bids, prior to the date of the enactment of this Act.

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SECTION 09800

STEEL WATER TANK PAINTING

PART 1 - GENERAL

1.1 SCOPE

- A. Work covered within this section includes the cleaning, painting and disinfection of all interior and exterior surfaces of the elevated water storage tank, including ladders, vents, balcony, overflow pipe and handrails.
- B. The Contractor shall paint the City of Flowery Branch Logo as shown on the plans on two sides of the tank, with exact side to be field determined. The City will provide the actual color descriptions to the contractor.
- C. It is the Contractor's responsibility to assure that surrounding buildings, vehicles and structures are not damaged or sprayed with paint, regardless of the environmental conditions. If buildings, vehicles or structures are damaged due to the painting, it is the Contractor's responsibility repair and/or replace the items damaged.

1.2 SUBMITTALS

- A. Submit to the Owner's Representative, in accordance with Division 1, all copies of materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Product Data: Submit manufacturer's descriptive data fully describing each product including solids by volume and un-thinned volatile organic compounds (VOC)'s. Include manufacturer's recommendations for mixing, thinning, and curing.
 - 2. Certificates: Submit manufacturers certified test reports confirming compliance with the specified performance requirements under Paragraph 1.3.
 - 3. Colors: Submit 4 color charts for color selection.
 - 4. Lead Content: Submit manufacturer's certification that products to be supplied are lead free (less than 600 ppm lead).

1.3 REFERENCE STANDARDS

- A. American Water Works Association
 - 1. AWWA D100 – Standard for Welded Steel Tanks for Water Storage
 - 2. AWWA D102 – Standard for Painting Steel Water Storage Tanks
 - 3. AWWA C652 – Standard for Disinfection of Water Storage Facilities
- B. National Sanitation Foundation
 - 1. [NSF 600](#) – Material in Contact with Potable Water
- C. Steel Structures Painting Council Manual – Volume 1 – Good Painting Practice
- D. Steel Structures Painting Council Manual – Volume 2 – Systems and Specifications
- E. Federal Test Methods for the Performance of Paints and Coatings.

1.4 QUALITY ASSURANCE

A. Contractor Qualifications

1. The Contractor shall have three years practical experience and successful history in the Application of specified product to surfaces of steel water tanks. Upon request, he shall substantiate this requirement by furnishing a list of references and job completions.
2. The Contractor shall submit with his bid a written statement by the coatings manufacturer stating that the Contractor is familiar with the materials specified and has workers capable of performing the work specified herein.
3. The personnel performing the work shall be knowledgeable and have the required experience and skill to adequately perform the work for this project, in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting".

B. General

1. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Engineer.
2. Materials for each coating system shall be those of a single manufacturer. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.
3. All prime, intermediate and finish coating materials shall be applied in different color shades.
4. The Contractor shall obtain the approval of the Engineer of the steel surface preparation and of each coat of paint prior to applying succeeding coats. Such approval will not relieve the Contractor of the obligations stated within.
5. The Contractor shall record environmental conditions at the beginning of each daily operation, thirty minutes before painting begins and every hour during painting operations.

C. Surface Preparation

1. Surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces: SSPC-VIS 1-89", ASTM Designation D2200-95, "Pictorial Surface Preparation Standards for Painting Steel Surfaces", ASTM D 4417-91, Method A and/or Method C "Field Measurement of Surface Profile of Blast Cleaned Steel" or NACE Standard RP0287-87 "Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape". In all cases the written standard shall take precedence over the visual standard. In addition, NACE Standard RP0178-91, "Fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Service", along with the Visual Comparator, shall be used to verify the surface preparation of welds.

D. No coating or paint shall be applied when:

1. The surrounding air temperature or the temperature of the surface to be coated or painted is below the minimum surface temperature for the products specified herein.
2. Rain, snow, fog or mist is present.
3. The surface temperature is less than 5F above the dew point,
4. The air temperature is expected to drop below the minimum temperature for the products specified within six hours after application of coating. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables.

5. If any of the above conditions are prevalent, coating or painting shall be delayed or postponed until conditions are favorable. The day's coating or painting shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.
- E. Thickness and Holiday Checking:
1. Thickness of coatings and paint shall be checked with a non-destructive, magnetic-type thickness gauge, as per SSPC-PA 2 "Measurement of Dry Film Thickness with Magnetic Gages". References in PA 2 which allow 80% of the minimum thickness specified are not acceptable. Use an instrument such as a Tooke Gauge if a destructive test is deemed necessary by the Engineer.
 2. The integrity of interior coated surfaces shall be checked with a low voltage holiday detector in accordance with NACE Standard RP0188. Non-destructive holiday detector shall not exceed 67.5 volts, nor shall destructive holiday detector exceed the voltage recommended by the manufacturer of the coating system. A solution of 1 ounce non-sudsing type wetting agent, such as Kodak Photo-Flo, and 1 gallon of tap water shall be used to perform the holiday testing. All pinholes and/or holidays shall be marked and repaired in accordance with the manufacturer's printed recommendations and retested. No pinholes or other irregularities will be permitted in the final coating.
- F. The contractor shall furnish, until final acceptance of coating and painting is accepted, inspection devices in good working condition for detection of holidays and measurement of dry film thickness of coating and paint. The Contractor shall also furnish U.S. Department of Commerce, National Bureau of Standards certified thickness calibration plates and/or plastic shims, depending upon the thickness gauge used, to test the accuracy of dry film thickness gauges and certified instrumentation to test the accuracy of holiday detectors. Dry film gauges and holiday detectors shall be made available for the Engineer's use at all times until final acceptance of application. Holiday detection devices shall be operated in the presence of the Engineer.
- G. Inspection for this project shall consist of 'hold point' inspections. The Engineer or his representative shall inspect the surface prior to abrasive blasting, after abrasive blasting but prior to application of coating materials, and between subsequent coats of material. Final inspection shall take place after all coatings are applied, but prior to placing the tank in service. Contractor will insure that sufficient rigging is in place so that the Engineer or his representative shall be able to conduct the required inspections.
- H. Warranty inspection shall be conducted during the eleventh month following acceptance of all coating and painting work. All defective work shall be repaired in accordance with this specification and to the satisfaction of the Engineer and/or Owner.
- I. [A 15-year gloss and color retention warranty for the exterior topcoat will be issued from the coating manufacturer to the owner after the job has been completed and all punch list items have been taken care of.](#)
- J. Do not paint over nameplates, tagging, or other identification devices.
- K. Contractor shall hire a third-party to conduct the testing in presence of the Owner Engineer. See Section 13412 for additional information.

1.5 SAFETY AND HEALTH REQUIREMENTS

A. General

1. The Contractor shall comply with all regulations as established by the Occupational Safety and Health Act and other government authorities.
2. In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical

bulletins and manuals, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working on or about the project site.

- B. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. In addition, workers engaged in or near the work during sandblasting shall wear eye and face protection devices and air purifying halfmask or mouthpiece respirators with appropriate filters. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation shall reduce the concentration of air contaminants to a degree a hazard does not exist. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protection devices.
- E. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the inspector.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.

1.6 PRODUCT DELIVERY, STORAGE & HANDLING

- A. All materials shall be brought to the jobsite in original sealed containers. They shall not be used until the Engineer has inspected the contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- B. All coatings and paints shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings and paints must be stored to conform with City, County, State and Federal safety codes for flammable coating or paint materials. At all times coatings and paints shall be protected from freezing.

PART 2 - MATERIALS

2.1 ACCEPTABLE MANUFACTURERS

- A. Materials specified are those that have been evaluated for the specific service. Products of the Tnemec Company, Inc. are listed to establish a standard of quality. Equivalent materials of other manufacturer's may be submitted on written approval of the Engineer. As part of the proof of equality, the Engineer will require at the cost of the Contractor, certified test reports from a nationally known, reputable and independent testing laboratory conducting comparative tests as directed by the Engineer between the product specified and the requested substitution.
- B. Requests for substitution shall include manufacturer's literature for each product giving name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified lab test reports showing results to equal the performance criteria of the products specified herein. In addition, a list of five projects shall be submitted in which each product has been used and rendered satisfactory service.
- C. All requests for product substitution shall be made at least 10 days prior to the bid date.

- D. Any material savings shall be passed to the owner in the form of a contract dollar reduction.
- E. Manufacturer's color charts shall be submitted to the Engineer at least 30 days prior to coating and/or paint application. General Contractor and Painting Contractor shall coordinate work so as to allow sufficient time (normally seven to ten days) for paint to be delivered to the job site.

2.2 GENERAL REQUIREMENTS

- A. All materials shall be lead-free as defined by the Consumer Product Safety Act, Part 1303.
- B. All zinc dust pigment contained in any zinc-rich material shall meet the requirements of ASTM D 520 Type III as regards zinc content and purity.
- C. All materials for the interior wetted portion of the tank shall meet the requirements of ANSI/NSF [Standard 600](#) for potable water contact.
- D. All high gloss clear coat products shall incorporate the use of a fugitive dye to aid in the proper application and coverage of such coats.
- E. All catalyzed polyurethane products shall meet the minimum requirements of SSPC Paint Specification Number 36, Level 3 Performance Level.

2.3 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

2.4 SHOP-APPLIED PRIMER – BOTH SIDES OF PLATE

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Anchor profile shall be primarily angular and irregular, as produced by a blend of grit and shot.
- C. Zinc-Rich Primer: Themec Series 94 Hydro-Zinc applied at 2.5 to 3.5 dry mils. Thin only with approved thinner, Themec 41-49 or 41-3 Thinner.

2.5 FIELD-APPLIED TANK INTERIOR COATING SYSTEMS

- A. [Two Coat](#) System:
 - 1. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
 - 2. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP10 Near White Metal Blast Cleaning and above.
- 3. Coating System:

1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
2. Field 1st Coat: Tnemec Series 21-WH16 Off White applied at 12.0 to 16.0 dry mils. Thin only with approved thinner, Tnemec 41-88 Thinner.
3. Total dry film thickness shall be a minimum of 14.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
4. For cold weather applications, Tnemec Series 21 can be applied down to 35 degrees

2.6 FIELD-APPLIED TANK EXTERIOR COATING SYSTEMS

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP6 Commercial Blast Cleaning and above.
- C. Coating System:
 1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
 - a. 1st Field Coat: Tnemec Series 1075 -Color applied at 2.0 to 3.0 dry mils. Thin only with approved thinner. 41-39 for brush or roller.
 - b. 2nd Field Coat: Tnemec Series 700-Color Endura-Shield applied at 2.0 to 3.0 dry mils. Thin only with approved thinner, , 41-63 for brush or roller.
 2. Total dry film thickness shall be a minimum of 6.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
 3. The finish color of the exterior shall match the existing tank color.

PART 3 - EXECUTION

3.1 GENERAL

- A. All surface preparation, coating and painting shall conform to applicable standards of the Steel Structures Painting Council, NACE International and the manufacturer's printed instructions. Materials applied to the surface prior to the approval of the Engineer shall be removed and re-applied to the satisfaction of the Engineer at the expense of the contractor.
- B. All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be coordinated with the Engineer.
- C. The Contractor shall provide a supervisor at the work site during cleaning and application operations. The supervisor shall have the authority to sign and change orders, coordinate work and make decisions pertaining to the fulfillment of the contract.

- D. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the coating or paint must be removed by washing with clean rags dipped in an approved cleaning solvent and wiped dry with clean rags.
- E. Coating and painting systems include surface preparation, prime coating and finish coatings. Unless otherwise approved in writing by the Engineer, prime coating shall be field applied. Where prime coatings are shop applied, the Contractor shall instruct suppliers to provide the prime coat compatible with the specified finish coat. Any off-site work which does not conform to this specification, is subjected to damage during transportation, construction or installation shall be thoroughly cleaned and touched-up in the field as directed by the Engineer. The Contractor shall use repair procedures which insure the complete protection of all adjacent primer. The specified repair method and equipment may include wirebrushing, hand or power tool cleaning, or dry air blast cleaning. In order to prevent injury to surrounding painted surfaces, blast cleaning may require use of lower air pressure, smaller nozzle and/or abrasive blast particles, or shorter blast nozzle distances from surface shielding and masking. If damage is too extensive or uneconomical to touch-up, the entire item shall be blasted and then coated or painted as directed by the Engineer.
- F. The Contractor's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Contractor's equipment shall be subject to approval of the Engineer.
- G. Application of the first coat shall follow immediately after surface preparation and cleaning and stripe coat, if applicable, before rust bloom occurs or the same day, whichever is less. Any cleaned areas not receiving first coat within this period shall be recleaned prior to application of first coat. Use of dehumidification equipment shall be first reviewed by the Engineer and coatings manufacturer prior to deviating from this provision.
- H. Prior to assembly, all surfaces made inaccessible after assembly shall be prepared as specified herein and shall receive the coating or paint system specified.

3.2 SURFACE PREPARATION

- A. The latest revision of the following surface preparation specifications of the Steel Structures Painting Council (SSPC) shall form a part of this specification. The summaries listed below are for informational purposes; consult the actual SSPC specification for full detail.
 - 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods which involve a solvent or cleaning action.
 - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mil scale and other detrimental foreign matter to a degree specified by hand chipping, scraping, sanding and wirebrushing
 - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mil scale and other detrimental foreign matter by power wirebrushing, power impact tools or power sanders.
 - 4. White Metal Blast Cleaning (SSPC-SP5/NACE No. 1): Air blast cleaning to a gray-white uniform metallic color until each element of surface area is free of all visible residues.
 - 5. Commercial Blast Cleaning (SSPC-SP6 NACE No. 3): Air blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 - 6. Brush-Off Blast Cleaning (SSPC-SP7 NACE No. 4): Air blast cleaning to remove loose rust, loose mil scale and other detrimental foreign matter to a degree specified.
 - 7. Near-White Metal Blast Cleaning (SSPC-SP10 NACE No. 2): Air blast cleaning until at least 95% of each element of surface area is free of all visible residues.

8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Differs from SSPC-SP3 in that it requires more thorough cleaning and a surface profile not less than 1 mil.
- B. Slag, weld metal accumulation and spatters not removed by the Fabricator, Erector or Installer shall be removed by chipping and/or grinding. All sharp edges shall be peened, ground or otherwise blunted as required by the Engineer. All grinding and finishing of welds, edges, etc. shall be performed prior to solvent cleaning and abrasive blasting. Welds shall be prepared as per NACE Standard RP0178 for all interior and exterior surfaces:
 1. Butt Welds: Shall be ground smooth and free of all defects, designation "D".
 2. Lap Welds: Shall be ground smooth and blended., designation "D".
 3. Fillet Welded Tee Joint: Shall be ground smooth and blended, designation "D"
- C. All recycled abrasives used in automated shop blasting shall be clean as per SSPC-AB2 "Cleanliness of Recycled Ferrous Metallic Abrasives". All shop blasting utilizing centrifugal-type equipment shall utilize a blend of shot and grit (maximum of 80% shot). In no case shall steel shot alone be permitted. After blast cleaning, the surface of the steel shall appear angular and irregular. Should the surface appear peened or undulating, the steel shall be reblasted to achieve the correct appearance.
- D. All welds shall be neutralized with a suitable chemical compatible with the specified coating or paint.
- E. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Blast nozzles shall be venturi-type nozzles with a minimum pressure at the nozzle of 90 psi.
- F. Particle size of abrasives used in blast cleaning shall be that which will produce a 1.5 - 2.5 mil (37.5 microns - 65.0 microns) surface profile or in accordance with recommendations of the manufacturer of the specified coating or paint system to be applied. If the profile of the blasted steel exceeds the profile specified above, the Contractor shall be required to do one or both of the following:
 1. Reblast the surface using a finer aggregate in order to produce the required profile.
 2. Apply a thicker prime coat, if possible given the limitations of the products being applied, in order to adequately cover the blast profile
- G. All shop-primed surfaces shall receive a uniform and thorough sweep-blast as per SSPC-SP7/NACE No. 4. All bare metal areas shall be abrasive blasted as per SSPC-SP10/NACE No. 2 Near-White Blast Cleaned for interior surfaces and SSPC-SP6/NACE No. 3 Commercial Blast Cleaning for all exterior surfaces.
- H. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants that would interfere with adhesion of coating or paint and shall not be reused unless specifically approved in writing by the Engineer.
- I. During blast cleaning operations, caution shall be exercised to insure that existing coatings or paint are not exposed to abrasion from blast cleaning.
- J. The Contractor shall keep the area of his work and the surrounding environment in a clean condition. He shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the accomplishment of the work, the operation of the existing facilities or to the surrounding environment.
- K. Blast cleaned surfaces shall be cleaned prior to application of specified coatings or paint. All surfaces shall be free of dust, dirt, and other residue resulting from the abrasive blasting operation. No coatings or paint shall be applied over damp or moist surfaces.
- L. Specific Surface Preparation: Surface preparation for the specific system shall be as noted in Sections 2.04, 2.05, and 2.06.

3.3 APPLICATION, GENERAL

- A. Coating and paint application shall conform to the requirements of the Steel Structure Painting Council Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting".
- B. Thinning shall be permitted only as recommended by the manufacturer and approved by the Engineer, and utilizing the thinners stated in Sections 2.04, 2.05, and 2.06..
- C. Each application of coating or paint shall be applied evenly, free of brush marks, sags, runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coatings and paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.
- D. Protective coverings or drop cloths shall be used to protect floors, fixtures and equipment. Care shall be exercised to prevent coatings or paints from being spattered onto surfaces which are not to be coated or painted. Report to the Engineer surfaces from which materials cannot be satisfactorily removed.
- E. When two coats of coating or paint are specified, where possible, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.
- F. Film thickness per coat as specified in Sections 2.04, 2.05, 2.06, and 2.07 are the minimum required. If roller application is deemed necessary, the Contractor shall apply additional coats as to achieve the specified thickness.
- G. All material shall be as specified.

3.4 COATING SYSTEMS APPLICATION

- A. After completion of surface preparation as specified for the specific system, materials shall be applied as noted in Sections 2.04, 2.05, 2.06, and 2.07.
- B. Care shall be taken so as to eliminate overspray and dry spray on the tank interior. Where such conditions are encountered, the surface shall be cleaned of all over spray and dry spray prior to the application of the succeeding coat.

3.5 DISINFECTION

- A. Disinfection shall be completed as described in Specification 13412. Disinfection of interior surfaces shall be performed in the presence of the Engineer in accordance with all the requirements of applicable AWWA Standards and regulatory agencies.
- B. Disinfection shall be performed after protective coatings have been applied to the interior surfaces and allowed to thoroughly cure.
- C. Prior to disinfecting, the complete interior shall be washed down with clean water and thoroughly flushed out.
- D. All interior surfaces shall be thoroughly washed with a solution having a minimum chlorine content of 50 PPM. Chlorine solution accumulated on the bottom shall be drained to waste. Rinsing with clean water is not required.

3.6 SOLVENT VAPOR REMOVAL

- A. All solvent vapors shall be completely removed by suction-type exhaust fans and blowers before placing tank in operating service.

- B. All solvent vapors will be exhausted both during and after coating application at a minimum rate of one air change every four hours to allow the proper curing of the coating material. High rates of production may require an increase in ventilation.
- C. Ventilation shall be continued until such time as the coating has reached "full cure" as specified by the coating manufacturer.

3.7 CLEAN UP

- A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Engineer. Coating or paint spots or oil stains upon adjacent surfaces shall be removed and the jobsite cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired or refinished to the satisfaction of the Engineer at no cost to the Owner.

END OF SPECIFICATION 09800

**SECTION 13412
ELEVATED STORAGE TANK 1**

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor shall be responsible for all labor, materials and equipment necessary for the design, fabrication, construction, painting, disinfection and testing of an elevated welded carbon steel water storage tank supported by a steel support pedestal, commonly referred to as a "Spheroid or Pedesphere".
- B. Design and construction of the elevated tank shall conform to all requirements of AWWA D100-latest edition Standard for Welded Carbon Steel Tanks for Water Storage, except as modified by the requirements of these contract documents.
- C. The Contractor shall obtain all necessary permits and licenses required for the construction of the elevated water tank.

1.2 SUBMITTALS

- A. Submit to the Owner's Consultant, in accordance with the Division 1, copies of all materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. A list of five similar elevated tanks constructed within the last ten years including the Owner, tank capacity and the Engineer.
 - 2. A foundation design drawing showing design and dimensions of the concrete and reinforcing steel. The drawings and calculations must be designed by and bear the stamp of a professional engineer registered in the State of Georgia.
 - 3. The Contractor shall provide Drawings and design calculations for the elevated steel tank. Drawings shall show the size and location of all structural components and reinforcement, the required strength and grade of all materials, and the size and arrangement of principle piping and equipment. The drawings and calculations shall bear the certification of a professional Engineer licensed in the State of Georgia. The design coefficients and resultant loads for snow, wind and seismic forces, and the methods of analysis shall be documented.
 - 4. OSHA approved climbing equipment.
 - 5. Tank accessories.
 - 6. Lightening protection.
- B. Test Reports
 - 1. Shop test results.
 - 2. Field pressure /leakage tests.
 - 3. Independent visual and x-ray seam reports.
- C. Certificates

1. Prior to shipment, submit a certified affidavit of compliance from the manufacturer that the tank has been manufactured in accordance with AWWA and ASTM standards and requirements specified herein.

1.3 REFERENCE STANDARDS

- A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.
- B. American Water Works Association (AWWA)
 1. AWWA D100-latest edition - Standard for Welded Steel Tanks for Water Storage.
 2. AWWA D102 - Standard for Painting Steel Water Storage Tanks.
 3. AWWA C652 - Standard for Disinfection of Water Storage Facilities.
- C. American Welding Society
- D. NSF (National Sanitation Foundation) 61 - Materials in contact with Potable Water.
- E. Steel Structures Painting Council Manual - Volume 1 - Good Painting Practice.
- F. Steel Structures Painting Council Manual - Volume 2 - Systems and Specifications.
- G. ACI 318 - Building Code Requirements for Reinforced Concrete
- H. ACI 301 – Standard Specification for Structural Concrete
- I. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.4 QUALITY ASSURANCE

- A. All products specified under this Section shall be standard products of proven ability as manufactured by competent organizations that are fully experienced, reputable and qualified in the manufacture of the products to be furnished. The products shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
- B. All products furnished under this Section shall be new and unused and shall be the standard products of manufacturers having a successful record of manufacturing and servicing the equipment specified herein for a minimum of five (5) years.
- C. Pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.
- D. The Owner's Consultant may also make inspection of products after delivery. Products shall be subject to rejection at any time due to failure to meet any of the Specification requirements, even though submittal data may have been accepted previously. Products rejected after delivery shall be marked for identification and shall be removed from the job site at once.

PART 2 – PRODUCTS

2.1 GENERAL

- A. The materials, design, fabrication, erection, welding, testing and inspection of the steel tank shall be in accordance AWWA D100-latest edition

- B. The tank foundation shall be designed in accordance with AWWA D100-latest edition and ACI 318.
- C. The elevated steel water tank shall consist of a pedisphere tank with the following characteristics:
 - 1. The design operating capacity of the storage tank will be 250,000 gallons.
 - 2. The capacity of the tank, low to high water level, shall be contained within a maximum operation range from 30 feet to 32 feet plus or minus 2.5 feet.
 - 3. The height of the tank, top of foundation to the high water level shall be 155 feet.
 - 4. The top of the foundation shall be at elevation 1190.0 feet-msl.
- D. The following factors shall be used for the design of seismic loads and shall be in accordance with AWWA D100-latest edition:
 - 1. Seismic Zone 2A
- E. Wind pressure shall be determined in accordance with AWWA D100-96 (latest edition), Section 3.1.4 for a 100 MPH wind velocity.
- F. Snow Load shall be determined in accordance with AWWA D100-96 (latest edition), Section 3.1.3 for 25 psf minimum loading.
- H. A geotechnical investigation has been conducted for this report and is included in Section 02010 of the specifications.
- G. The minimum thickness for any part of the structure shall be 3/16 inch for parts not in contact with water and 1/4 inch for parts in contact with water, including the roof plates. All portions of the tank including the roof shall be of watertight construction.

2.2 TANK ACCESSORIES

- A. The following accessories shall be provided in accordance with these specifications. All items shall be in full conformity with the current applicable OSHA safety regulations and the operating requirements of the structure.
- B. Ladders
 - 1. Access ladders shall be included at the following locations:
 - a. The tower ladder shall extend from grade to upper platform and from upper platform to tank floor manhole. Upper platform to steel tank roof mounted on access tube interior.
 - b. Exterior of access tube to provide access from roof manhole to the tank floor.
 - 2. Ladder side rails shall be a minimum 3/8 inch by 2 inches with a 16 inch clear spacing. Rungs shall be not less than 3/4 inch, round or square, spaced at 12 inch centers. The surface of the rungs shall be knurled, dimpled or otherwise treated to minimize slipping. At platforms or landings, the ladder shall extend a minimum 4 feet above the platform. Ladders shall be secured to adjacent structures by brackets located at intervals not exceeding 10 feet. Brackets shall be of sufficient length to provide a minimum distance of 7 inches from the center of the rung to the nearest permanent object behind the ladder.
 - 3. Ladders shall be equipped with a fall arrest system meeting OSHA regulations. The system shall be supplied complete with a safety harness, locking mechanisms, lanyards

and accessories for two persons. The safety harness equipment shall be supplied at the start of the project and turned over to the Engineer.

C. Upper Platform

1. An upper platform shall be located at the top of the support pedestal to provide access from the pedestal ladder to the roof access ladder located on the interior of the access tube. Platform shall include a 24" x 36" access hatch with opening to allow ladder and safety device to continue 48" minimum above the platform floor.
2. A roof handrail shall be provided surrounding the roof manholes, vents, and other roof equipment. Handrail shall comply with OSHA requirements.

D. Roof Hatches

1. Provide two access hatches on the roof of the tank. One hatch shall be 30 inch diameter and allow access from the roof to the interior of the tank. The hatch will be hinged and equipped with a hasp for locking. The hatch cover shall have a 2 inch downward edge. The second hatch will be 24 inch diameter and flanged with a removable cover so constructed that an exhaust fan may be connected for ventilation during painting operations. The openings shall have a minimum 4 inch curb.
2. Provide one 30 inch diameter hinged access hatch on the access tube roof. The hatch cover shall have a 2 inch downward edge.

E. Tank Vent

1. The tank vent should be centrally located on the tank roof above the maximum weir crest elevation. The tank vent shall have an intake and relief capacity sufficiently large that excessive pressure or vacuum will not develop during maximum flow rate. The vent shall be designed, constructed and screened so as to prevent the ingress of wind driven debris, insects, birds and animals. The vent shall be designed to operate when frosted over or otherwise clogged. The screens or relief material shall not be damaged by the occurrence and shall return automatically to operating position after the blockage is cleared.

F. Tank Floor Manhole

1. A minimum 18 x 24 inch elliptical access manhole shall be provided in the tank bottom accessible from the upper platform or from a ladder that extends from the platform to the opening. The hatch shall open inward.

G. Pedestal Hatch

1. A 24" diameter manhole shall be located near the top of the pedestal for access to the exterior painter's rail located near the tank/pedestal interface. This opening shall be accessible from the upper pedestal platform.

H. Access Tube

1. A minimum 36" diameter access tube shall be provided for tanks with capacities of 150,000 gallons and less, or 42" diameter access tube on tanks with capacities 200,000 gallons and greater. The access tube will be provided from the top of the pedestal to the tank roof.

I. Rigging

1. Interior and exterior rigging devices shall be provided for painting, inspecting and maintaining the structure and accessories. A continuous bar or tee rail near the top of the exterior support structure shall be provided. The rail may be attached to the support column or steel tank. A painter's rail attached to the roof, pipe couplings with plugs in the

roof or other attachments that provide complete access for painting of tank interior shall be furnished.

J. Piping

1. General

Exterior of pipes exposed to stored water shall be coated with tank interior wet system. Exterior of pipes in the pedestal and base cone shall be coated with tank interior dry system.

2. Inlet/Outlet Piping

Provide a 12 inch diameter standard weight steel inlet/outlet pipe that extends vertically from the base of the pedestal to the bottom of the tank. An expansion joint shall be provided in the vertical section of pipe. The expansion joint should be constructed to accommodate any differential movement caused by settlement or thermal expansion and contraction. Inlet/Outlet pipe shall not extend above the LWL.

3. Overflow

The overflow pipe shall be designed to carry the maximum design flow rate of 350 GPM. The steel overflow pipe will be 8 inch in diameter and shall have a minimum wall thickness of 1/4". A suitable weir shall be provided with the crest at High Water Level. The overflow pipe shall extend down from the weir box through the tank, pedestal, and base cone. The overflow pipe shall penetrate the base cone wall approximately 1 to 2 feet above grade and discharge onto a concrete splash pad. The point of discharge shall have a 45 degree elbow and be equipped with a stainless steel screened end.

K. Interior Floor

1. A concrete slab-on-grade shall be provided inside the base cone. Isolation joints shall be provided at junctions with walls, columns, equipment or piping foundations.

L. Personnel Door

1. A 36" by 80" access door with a flush threshold shall be located in the base of the pedestal cone. A step over threshold is not acceptable. The door shall be fabricated from steel plate with adequate stiffening and specifically designed for use with the tank. The access door will be equipped with handle, drip cover and dead bolt lock. Commercial hollow metal doors and frames are not acceptable

M. Identification Plate

1. A tank identification plate shall be mounted on the tank riser pipe above the access manhole. The identification plate shall be corrosion resistant and contain the following information.
 - a. Tank Contractor
 - b. Contractor's project or file number
 - c. Tank capacity
 - d. Height to High Water Level
 - e. Date erected
 - f. Tank Owner

PART 3 - EXECUTION

3.1 GENERAL

- A. The erection of the steel tank shall comply with the requirements of Section 10 of AWWA D100-latest edition.
- B. All interior lap joints shall be sealed by means of continuous seal welding (not caulking).

3.2 WELDING

- A. All shop and field welding shall conform to AWS and AWWA D100-latest edition, Section 10. Before any welding is performed, the constructor shall make certain that the welders or welding operators have their credentials for acceptance.

3.3 FABRICATION

- A. All fabrication and shop assembly shall conform to the requirements of AWWA D100-latest edition, Section 9, Shop Fabrication.

3.4 ERECTION

- A. Plates subjected to stress by the weight or pressure of the contained liquid shall be assembled and welded in such a manner that the proper curvature of the plates in both directions is maintained. Plates shall be assembled and welded together by a procedure that will result in a minimum of distortion from weld shrinkage.

3.5 TESTING

- A. Testing for both shop and field welds shall be in accordance with AWWA D100-latest edition, Section 11, Inspection and Testing. All testing shall be performed prior to interior and exterior field painting. The testing shall be performed by an independent testing agency with all costs included in the Contractor's bid and paid by the Contractor. The Contractor shall have a third-party weld inspection performed including both at visual and a radiograph inspection per Section 11 of AWWA D100-latest edition.

- B. Paint Inspection and Testing

The Contractor shall have a third-party paint inspection and testing performed at times and locations in the presence of the Owner or Engineer including the prime coat and each of the two paint layers. The Contractor shall bore all cost associated with the third party, but not for the Owner or Engineer. Before the primer coating is applied, verify that the required surface preparation parameters as outlined in AWWA D102-latest edition have been satisfied. The wet film thickness of each coat shall be measured during application. Before application of successive coats, the dry film thickness shall be measured for compliance. The dry film thickness of the total system shall be measured in accordance with SSPC-PA 2. The required number of measurements for conformance to a thickness specified shall conform to Section 8 and SSPC-PA 2 and shall be determined between the Contractor and Owner/Engineer prior to any painting activities. For inside coating systems, the coating on interior wet surfaces below the top capacity level shall be tested and identified in accordance with NACE SP0188. Locations where holiday are detected shall be retested after repair work has been completed. Results of quality control test and records shall be provided to the Owner or Engineer at the end of each testing period. An affidavit of Compliance shall be provided at the end of the project. First-anniversary inspection shall be conducted by the Contractor to determine whether the coating system is performing properly. All areas failing shall be repaired by the Contractor.

3.6 PAINTING

- A. Surface preparation and coating of all steel surfaces shall be in accordance with Section 09800 "Coating System for Steel Water Storage Tanks".
- B. The tank manufacturer shall include a two logos painted on the sides of the bowl consisting of "City of Flowery Branch" along with their "symbol". The Owner will furnish a jpeg of the compete logo and assign the sides for the logo during the shop drawing period. The Contractor shall submit logo painting details including actual size and methods for review.

3.7 DISINFECTION

- A. Upon testing and painting, the tank and all connecting piping shall be flushed and disinfected prior to being put into service. Disinfection shall be in accordance with AWWA C-652.
- B. Only potable water shall be used as the water supply during disinfection operations.
- C. The Contractor shall use either high-test calcium hypochlorite, sodium hypochlorite solution or liquid chlorine for disinfection. The Contractor shall notify the Engineer prior to disinfection of the storage facility on what form of chlorine shall be used.
- D. One of the following methods shall be used for disinfection of the elevated water tank. The Contractor shall notify the Engineer prior to disinfection which method of disinfection shall be used as outlined in AWWA C-652, Section 4.
 - 1. First Method: After the storage tank has been thoroughly dried, it shall be filled slowly to the overflow level with potable water to which enough chlorine is added to provide a free chlorine residual in the full facility of not less than 10mg/L at the end of the 24-hour period. After the 24-hour retention period, the highly chlorinated water in the storage tank shall be completely emptied (by applying a reducing agent to the wasted water to thoroughly neutralize the chlorine residual in the water), and then refilled with potable water. After refilling, samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 -3 -5, before the tank is placed in or restored to regular service.
 - 2. Second Method: The walls and bottoms of storage tanks shall be thoroughly cleaned to remove all dirt and loose material. A strong chlorine solution (at least 200mg/L) shall be applied to the surface of all parts of the storage facility, including the inlet and outlet piping, that would be in contact with water when the storage facility is full to the overflow elevation. The disinfected surfaces shall remain in contact with the strong chlorine solution for at least 30 minutes, after which potable water shall be admitted. After that, the highly chlorinated water in the tank shall be disposed in an acceptable manner, as stated above, and then refilled with potable water to its overflow level. After refilling, samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 - 3 – 5, before the tank is placed in or restored to regular service.
 - 3. Third Method: Water containing a minimum of 50mg/L chlorine shall be placed in the storage tank to such depth that, when the storage tank is filled with potable water to the overflow level and held full for a period of at least 24 hours, there will be a free chlorine residual of not be less than 2 mg/L. The full storage tank must be allowed to stand for 24 hours. All highly chlorinated water shall then be purged from the drain piping. Samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 – 3 5. The storage tank may be put into service without draining the remaining water in the tank.

3.8 CONCRETE FOUNDATION

- A. A Geotechnical investigation has been carried out at the site and a copy of the report is included with the Contract Documents. Recommendations for the foundation and allowable bearing capacities are defined in this report. The Owner shall retain the services of the Geotechnical consultant to verify the adequacy of the bearing stratum after the Contractor has carried out the excavation and before any concrete or reinforcement is placed. The concrete foundation shall be designed by the Contractor based upon the recommendations in the geotechnical report. The report must provide the allowable soil bearing pressure with appropriate factors of safety, the active and passive earth pressure coefficients, the angle of soils internal friction, its cohesion, unit weight and recommendations for bearing depth and backfill requirements.
- B. The foundation shall be designed and constructed to safely and permanently support the structure. The basis of the foundation construction shall be consistent with the soils investigation data included herein of these specifications. Appropriate changes to construction schedule and price will be negotiated if, during excavation, soil conditions are encountered which differ from those described in geotechnical report. The concrete foundation shall be constructed in accordance with ACI 301. Minimum concrete compressive strength shall be as specified in Section 03000 "Cast-In-Place Concrete".

3.8 PRODUCT GUARANTEE

- A. The tank Contractor shall guarantee its work for a period of three years from the substantial completion date defined in the contract documents to the extent that it will repair any defects caused by faulty design, workmanship or material furnished under the specifications.
- B. All guarantees obtained by the tank Contractor from the manufacturer or installer of paint, equipment or accessories not manufactured by tank Contractor shall be obtained for the benefit of the Purchaser.

END OF SECTION 13412

Date: June 28, 2022

Owner: City of Flowery Branch, Georgia

Project: Elevated Water Tank 1 Improvements

Flowery Branch Bid # 22-008

ADDENDUM NUMBER TWO

1. The following Addendum hereby amends and/or modifies the Contract Documents and any previous addenda as indicated and as issued by Infratec Consultants. All Bidders are subject to the provisions of this Addendum. Bidders shall acknowledge receipt of this Addendum on the Bid Form.
2. In Section 13412 Elevated Storage Tank 1; Section 2.1 General; Paragraph C. 3; change the height of the tank from 155' to 152' to match the drawings.
3. Add Section 15100 – Valves and Accessories to the specifications noted with Addendum No. Two in the headers.

End of Addendum Number Two

Keith Hendrix, PE
404-861-6956
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SECTION 15100

VALVES AND ACCESSORIES

PART 1 GENERAL

1.1 SUMMARY

- A. The Contractor shall furnish all tools, equipment, materials, and supplies and shall perform all labor required to furnish and install all valves and appurtenances as indicated on the Drawings, and specified herein.

1.2 RELATED WORK

- A. Instrumentation and Electrical in Divisions 13 and 16.
- B. All valve operators, solenoids, limit switches, etc. located in hazardous areas shall be rated and approved for the area in which it is installed.

1.3 SUBMITTALS

- A. Submit to the ENGINEER, in accordance with Division 1, copies of all materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Certified drawings showing details of construction and dimensions.
 - 2. Descriptive literature bulletins and/or catalogs of each product.
 - 3. The total weight of each item.
 - 4. A complete bill of materials.
 - 5. A valve schedule showing the type and location of all valves.
- B. Certificates
 - 1. For each valve manufactured, tested and/or installed in accordance with AWWA and other standards, submit an affidavit of compliance with the appropriate standards, including certified results of required tests and certification of proper installation.
- C. Manufacturer's assembly instructions.
- D. Complete operating and maintenance instructions shall be furnished for all equipment specified herein accordance with the General Conditions and Division 1.
- E. In the event that it is impossible to conform to certain details of the specifications due to different manufacturing techniques, describe completely all non-conforming aspects.

1.4 REFERENCE STANDARDS

- A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.
- B. American Society for Testing and Materials (ASTM)
- C. American Water Works Association (AWWA)
- D. American National Standards Institute (ANSI)
- E. American Iron and Steel Institute (AISI)

- F. Manufacturer's Standardization Society of the Valve and Fittings Industry (MSS)
- G. National Electrical Manufacturers Association (NEMA)
- H. Underwriters Laboratories (UL)
- I. Factory Mutual (FM)
- J. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.5 QUALITY ASSURANCE

- A. Qualifications
 - 1. All products specified under this Section shall be standard products of proven ability as manufactured by competent organizations that are fully experienced, reputable and qualified in the manufacture of the products to be furnished. The products shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
 - 2. All products furnished under this Section shall be new and unused and shall be the standard products of manufacturers having a successful record of manufacturing and servicing the equipment and systems specified herein for a minimum of five (5) years.
 - 3. These Specifications are intended to give a general description of what is required, but do not cover all details which may vary in accordance with the exact requirements of the products as offered. They are, however, intended to cover the furnishing, delivery, installation, field testing and field calibration of all materials and apparatus as required. Any additional equipment necessary for the proper operation of the proposed installation not specifically mentioned in these Specifications or shown on the Drawings shall be furnished and installed at no change in Contract Price or Time.
 - 4. All products of the same type shall be the product of one manufacturer.
- B. Inspection of products may also be made by the Construction Manager after delivery. Products shall be subject to rejection at any time due to failure to meet any of the Specification requirements, even though submittal data may have been accepted previously. Products rejected after delivery shall be marked for identification and shall be removed from the job site at once.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Reference is made to Section 01600 for additional information.
- B. Packing and Shipping
 - 1. Care shall be taken in loading, transporting and unloading to prevent injury to the valves, appurtenances, or coatings. Equipment shall not be dropped. All valves and appurtenances shall be examined before installation and no piece shall be installed which is found to be defective. Any damage to the coatings shall be repaired as acceptable to the Engineer.
 - 2. Prior to shipping, the ends of all valves shall be acceptably covered to prevent entry of foreign material. Covers shall remain in place until after installation and connecting piping is completed.
 - 3. All valves 3-in and larger shall be shipped and stored on site until time of use with wood or plywood covers on each valve end.

4. Valves smaller than 3-in shall be shipped and stored as above except that heavy cardboard covers may be used on the openings.
 5. Rising stems and exposed stem valves shall be coated with a protective oil film that shall be maintained until the valve is installed and put into use.
 6. Any corrosion in evidence at the time of acceptance by the Owner shall be removed, or the valve shall be removed and replaced.
- C. Storage and Protection
1. Special care shall be taken to prevent plastic and similar brittle items from being directly exposed to the sun, or exposed to extremes in temperature, to prevent deformation. See the individual piping specifications and manufacturer's information for further requirements.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT - GENERAL

- A. The use of a manufacturer's name and/or model or catalog number is for the purpose of establishing the standard of quality and general configuration desired.
- B. Valves and appurtenances shall be of the size shown on the Drawings or as noted and as far as possible equipment of the same type shall be identical and from one manufacturer.
- C. Valves and appurtenances shall have the name of the maker, nominal size, flow directional arrows, working pressure for which they are designed and standard referenced, cast in raised letters or indelibly marked upon some appropriate part of the body. The name of the valve manufacturer, rated working pressure, and size may be stamped on a stainless steel identification plate permanently attached to the valve body or bonnet. Valves specified to conform with AWWA requirements shall have the letter "AWWA" cast upon the valve body or bonnet in raised letters.
- D. Unless otherwise noted, items shall have a minimum working pressure of 150 psi or be of the same working pressure as the pipe they connect to, whichever is higher and suitable for the pressures noted where they are installed.
- E. Buried valves shall be set vertically and in a closed position . An approved valve box constructed of cast iron with a round base shall be provided on each valve. The valve box shall be of the sliding type with a 5 inch shaft and cover shall be slotted for easy removal. The box shall be set vertical and centered over the valve operating nut with the top adjusted to the finish grade. A 2'x2'x4" concrete pad shall be poured around each valve box.
- F. Where required for satisfactory operation of valves, provide extension stems within 24" of the finished grade for buried valves, stainless steel extension stems for exposed valves, cast iron stem guides, floor boxes, handwheels, floor stands, and other appurtenances.

2.2 VALVE ACTUATORS - GENERAL

- A. The valve manufacturer shall supply and integrally, rigidly mount all actuators, including any type of manual or powered actuators, on valves at the factory. The valves and their individual actuators shall be shipped as a unit.

- B. Unless otherwise noted, valves shall be manually actuated; non-buried valves shall have an operating wheel, handle or lever mounted on the operator; buried valves and those with operating nuts shall have a non-rising stem with an AWWA 2-in nut.
- C. Except as otherwise shown on the Drawings or specified herein, all valves 3-in diameter or larger, with the valve center line located 7-ft or more above the operating floor, shall be provided with chain wheel operators complete with chain guides and hot dipped galvanized steel chain, which loop within 4-ft of the operating floor.
- D. Each operating device shall have cast on it the word "OPEN" and an arrow indicating the direction of operation.
- E. Floor boxes for operating nuts recessed in concrete shall be standard cast iron type, cast-in-place, with fastening top by Clow or equal.
- F. Stem guides shall be of the adjustable wall bracket type, bronze bushed, with maximum spacing of 10-ft as manufactured by Clow; Rodney Hunt or equal. Extended operating nuts and/or stems shall have universal joints and pin couplings, if longer than 10-ft and a rating of at least five times the maximum operating torque. Stem adapters shall be provided.
- G. Where required by the installation, or as specified, provide the following: extended stem; floor stand and handwheel; position indicator and etched or cast arrow to show direction of rotation to open the valve; resilient, moisture-resistant seal around stem penetration of slab.
- H. Gear Actuators
 - 1. Unless otherwise noted, gear actuators shall be provided for the following: all valves of larger than 3-in nominal diameter; all buried valves with operating shaft mounted horizontally (butterfly, plug, etc); where specified and/or indicated on the Drawings; where manual operator effort is greater than 80 ft-lbs. rim pull.
 - 2. Gear actuators shall be of the worm or helical gear type with output shaft perpendicular to valve shaft, having a removable hand wheel mounted on the output shaft. Unless noted they shall conform to AWWA C504, but except with butterfly valves, need not be certified.
 - 3. Actuators shall be capable of being removed from the valve without dismantling the valve or removing the valve from the line.
 - 4. Gearing shall be machine-cut steel designed for smooth operation. Bearings shall be permanently lubricated, with bronze bearing bushings provided to take all thrusts and seals and to contain lubricants. Housings shall be sealed to exclude moisture and dirt, allow the reduction mechanisms to operate in lubricant and be of the same material as the valve body.
 - 5. Manual operator input effort to the handwheel shall be a maximum of 40 ft-lbs. for operating the valve from full open to full close, under any conditions. Gear actuators shall indicate valve position and have adjustable stops. Maximum handwheel size shall be 24-in diameter.

2.3 GATE VALVES (2-1/2-IN. AND SMALLER)

- A. Gate valves 2-1/2-in diameter and smaller shall have flanged, screwed, or solder ends as required and shall be brass, or bronze, or Type 304 stainless steel solid wedge, union bonnet, rising-stem gate valves such as Figures 47 and 48 as manufactured by Jenkins Brothers, or equal products as manufactured by Kennedy Valve Manufacturing Co.; Crane; or equal.

- B. All water valves 2-1/2-in and 3-in unless noted otherwise, shall be brass body gates and shall be Jenkins No. 1240, equal by Crane, Kennedy, or equal.

2.4 GATE VALVES (3-IN. AND LARGER)

A. General Requirements

1. Unless otherwise specified below, these requirements shall apply to all gate valves.
2. Gate valves shall meet the requirements of AWWA C500 and AWWA C509 as applicable to the type of valve specified.
3. Buried and submerged valves shall be furnished with mechanical joints and stainless steel hardware; non-rising stem design.
4. Exposed valves shall be furnished with Class 125 flanged ends; provide valves with outside screw and yoke.
5. All-metal valves shall be manufactured of ASTM A126 Cast Iron, Class B, with bronze mounting design.
6. Rising stem valves shall be sealed with adjustable and replaceable packing; valve design must permit packing replacement under operating system pressures with only moderate leakage.
7. Non-rising stem valves shall use a double O-ring stem seal, except that packing shall be used where geared operators are required.
8. Except as otherwise specified, valves shall be rated for the following working water pressures:
 - a. 3-in to 12-in: 250 psig
 - b. 14-in to 20-in: 150 psig
 - c. 24-in and greater: 50 psig
9. All valve bodies shall be hydrostatically tested to at least twice the rated working water pressure. In addition, valves shall be seat-tested, bi-directional at the rated working pressure, with seat leakage not to exceed one fluid ounce per inch of valve diameter per hour. Provide certificates of testing.
10. Flanged valves to have face-to-face dimensions per ANSI B16.1 and flanges per ANSI B16.10.
11. Exposed valves 16-in. and larger to have valve by-pass.
12. All bonnet and packing gland bolts shall be zinc or cadmium electroplated steel; packing gland bolts shall have bronze nuts.
13. Exposed valves, 16-inches in diameter and larger, indicated for horizontal stem installation shall be furnished with rollers, tracks and scrapers and enclosed bevel gear grease case.
14. All valves shall be marked per AWWA Standards, including name of manufacturer, valve size and working pressure and year of manufacture.
15. Unless otherwise indicated, valves 12-in and smaller shall be capable of installation in the vertical or horizontal position, and sealing in both directions at the rated pressure.

16. Valve operation shall be counterclockwise for potable water; clockwise for wastewater and other non-potable waters. Provide permanent label showing "OPEN" and arrows.
17. Metal-seated valves shall be coated internally and externally with an asphaltic varnish, per AWWA C500. Resilient seated valves shall be coated, interior and exterior, with fusion bonded epoxy per AWWA C550.

B. Valve Applications

1. Valves for Potable Water Service.
 - a. Resilient seated wedge design equal to M&H Valve Company Model 4067-01 or Mueller A-2360-20.

C. Valve Requirements

1. Resilient Seated
 - a. Conform to AWWA C509. Also UL and FM approved.
 - b. Internal and external epoxy coating of valve body, including bonnet, per AWWA C550.
 - c. Gate shall be encapsulated synthetic rubber. It shall be bonded and vulcanized in accordance with ASTM B429 Method B.
 - d. No recesses in valve body.

D. Buried Valves

1. Conform to the requirements above, except mechanical joint bell ends per AWWA C111.
 - a. All exposed valve hardware (nuts, bolts, washers, etc) including bonnet, bonnet cover, stuffing box, gear adapter and joints shall be Type 304 stainless steel.
2. Non-rising stem design, double O-ring seals for non-geared valves and shall incorporate packing for geared valves.
3. Provide valve box, 2-in operating nut and extension stem and stem cover.

2..9 SURFACE PREPARATION AND SHOP COATINGS

- A. Notwithstanding any of these Specifications, all coatings and lubricants in contact with potable water shall be certified as acceptable for use with that fluid.
- B. Unless otherwise specified herein, coatings shall comply with the requirements of Division 9. In case of a conflict, the requirements of this Section govern.
- C. If the manufacturer's requirement is not to require finished coating on any interior surfaces, then manufacturer shall so state and no interior finish coating will be required, if acceptable to the Engineer.
- D. The exterior surface of various parts of valves, operators, floor stands and miscellaneous piping shall be thoroughly cleaned of all scale, dirt, grease or other foreign matter and thereafter one shop coat of an approved rust-inhibitive primer such as Tnemec Epoxy Primer 66-BJ45 shall be applied in accordance with the instructions of the paint manufacturer or other primer compatible with the finish coat provided.
- E. Unless otherwise noted, interior ferrous surfaces of all valves shall be given a shop finish of an asphalt varnish conforming to AWWA C509, (except mounting faces/surfaces) or epoxy AWWA C550 with a minimum thickness of 4 mil.

- F. Ferrous surfaces obviously not to be painted shall be given a shop coat of grease or other suitable rust-resistant coating. Mounting surfaces shall be especially coated with a rust preventative.
- G. Special care shall be taken to protect uncoated items and plastic items, especially from environmental damage.

2.10 FACTORY INSPECTION, TESTING AND CORRECTION OF DEFICIENCIES

- A. Factory inspection, testing and correction of deficiencies shall be done in accordance with the referenced Standards and as noted herein.
- B. See Division 1 for additional requirements. Also refer to PART 1 of this Section, especially for required submission of test data to the Engineer.
- C. In addition to all tests required by the referenced Standards, the following shall also be factory tested:
 - 1. Pressure regulating valves shall be factory tested at the specified pressures and flows.
 - 2. All types of air and vacuum valves.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. All valves and appurtenances shall be installed per the manufacturer's instructions in the locations shown, true to alignment and rigidly supported. Any damage to the above items shall be repaired to the satisfaction of the Construction Manager before they are installed.
- B. Install all brackets, extension rods, guides, the various types of operators and appurtenances as shown on the Drawings, or otherwise required. Before setting these items, check all Drawings and figures that have a direct bearing on their location. The Contractor shall be responsible for the proper location of valves and appurtenances during the construction of the Work.
- C. All materials shall be carefully inspected for defects in construction and materials. All debris and foreign material shall be cleaned out of openings, etc. All valve flange covers shall remain in place until connected piping is in place. All operating mechanisms shall be operated to check their proper functioning and all nuts and bolts checked for tightness. Valves and other equipment that do not operate easily, or are otherwise defective, shall be repaired or replaced at no additional cost to the Owner.
- D. Where installation is covered by a Referenced Standard, installation shall be in accordance with that Standard, except as herein modified, and the Contractor shall certify such. Also note additional requirements in other parts of this Specification.
- E. Unless otherwise noted, joints for valves and appurtenances shall be made up utilizing the same procedures as specified under the applicable type connecting pipe joint and all valves and other items shall be installed in the proper position as recommended by the manufacturer. Contractor shall be responsible for verifying manufacturers' torquing requirements for all valves.

3.02 INSTALLATION OF MANUAL OPERATIONAL DEVICES

- A. Unless otherwise noted, all operational devices shall be installed with the units of the factory, as shown on the Drawings or as acceptable to the Construction Manager to allow accessibility to operate and maintain the item and to prevent interference with other piping, valves and appurtenances.
- B. For manually operated valves 3-in in diameter and smaller, valve operators and indicators shall be rotated to display toward normal operation locations.
- C. Floor boxes, valve boxes, extension stems and low floor stands shall be installed vertically centered over the operating nut, with couplings as required and the elevation of the box top shall be adjusted to conform with the elevation of the finished floor surface or grade at the completion of the Contract. Boxes and stem guides shall be adequately supported during concrete pouring to maintain vertical alignment.

3.03 INSPECTION, TESTING AND CORRECTION OF DEFICIENCIES

- A. Do not over pressurize valves or appurtenances during pipe testing. If any unit proves to be defective, it shall be replaced or repaired to the satisfaction of the Construction Manager.
- B. Testing shall not be performed until the manufacturer's service engineer has provided written certification that the installed equipment has been examined and found to be in complete accordance with the manufacturer's requirements.
- C. Functional Test: Prior to plant startup, all items shall be inspected for proper alignment, quiet operation, proper connection and satisfactory performance. All units shall be operated continuously while connected to the attached piping for at least 48 hours, without vibration, jamming, leakage, or overheating and perform the specified function.
- D. The various pipe lines in which the valves and appurtenances are to be installed are specified to be field tested. During these tests any defective valve or appurtenance shall be adjusted, removed and replaced, or otherwise made acceptable to the Construction Manager.
- E. Various regulating valves, strainers, or other appurtenances shall be tested to demonstrate their conformance with the specified operational capabilities and any deficiencies shall be corrected or the device replaced or otherwise made acceptable to the Construction Manager.

3.04 CLEANING

- A. All items (including valve interiors) shall be cleaned prior to installation, testing, disinfection, and final acceptance.

3.05 DISINFECTION

- A. Disinfection of valves and appurtenances on all potable water lines and where otherwise noted, shall be as noted in the Section 15060-Ductile Iron Pipe and Fittings.

END OF SECTION 15100

ADVERTISEMENT FOR BIDDERS

Sealed Bids will be received by the **City of Flowery Branch, Georgia**, 5410 W. Pine Street, Flowery Branch, Georgia 30542 until:

11:00 A.M., Local Time on Tuesday, June 28, 2022

for the Project known as:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements
BID #22-008**

at which time and place the proposals will be publicly opened and read aloud. Proposals received after the designated time will not be considered and returned unopened. The OWNER of the project is the City of Flowery Branch, Georgia. The ENGINEER for the project is Infratec Consultants, Inc.

The Project generally consists of the following major items:

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control including electrical modifications and miscellaneous appurtenances.

Bidders shall inform themselves concerning Georgia Laws and comply with same.

Complete electronic (PDF) sets of Bidding Documents may be obtained from the issuing office, Infratec Consultants Inc, 310 Saddle Hill Ct., Roswell, Georgia 30075, upon payment of \$100.00 for plans and specifications. Return of the Documents is not required, and the payment is non-refundable. The OWNER is not obligated to consider a bidder's proposal, if bidder is not on record with the issuing office as having received complete Bidding Documents.

For information concerning the proposed Work, contact Infratec Consultants, Inc., Attention Keith Hendrix, telephone number 404-861-6956 or email to kh.infratec@aol.com. Contractors may contact City of Flowery Branch personnel Jimmy Dean at telephone number 678-776-1074 or email at jimmydfb@flowerybranchga.org and/or Bill Whidden telephone number 470-798-0554 or email billw@flowerybranch.org for additional information and to schedule a site visit.

The time allowed for Substantial Completion each tank is 360 days, and the time allowed for completion and readiness for final payment is 390 days from the date of commencement.

Each Bid must be accompanied by a Bid Bond with good and sufficient surety or sureties approved by the owner for faithful acceptance of the contract, payable to, in favor of, and for the protection of the OWNER in an amount equivalent to five percent (5%) of the total amount payable by the terms of the contract or, in lieu thereof, a certified check, cashier's check, or cash in equal amount.

The successful bidder will be required to furnish the necessary additional Bond(s) as described in the Bidding Documents.

All Bids will remain subject to acceptance for ninety days after the day of the Bid opening, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to that date.

The Owner reserves the right to reject any or all Bids, to waive informalities and re-advertise.

Before a Contract will be awarded for the work proposed herein, the Owner will conduct such additional investigations as is necessary to determine the performance record and ability of the apparent low Bidder to perform the size and type of work specified under this Contract. Upon request, the Bidder shall submit such additional information as deemed necessary by the Owner to further evaluate the Bidder's qualifications. The Project, if awarded, will be to the lowest qualified Bidder or Bidders.

There will be a Non-Mandatory Pre-bid conference to be held at the existing Tank Site on Gainseville Street, at 11:00 A.M., local time, on Monday, June 20, 2022.

City of Flowery Branch, Georgia

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INSTRUCTIONS TO BIDDERS

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

- A. *Issuing Office*--The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered. The Issuing Office is:

**Infratec Consultants, Inc.
310 Saddle Hill Ct.
Roswell, Georgia 30075**

**Troxler Cell: (770) 596-1984
Hendrix Cell: (404) 861-6956**

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

2.01 Complete electronic (PDF) sets of the Bidding Documents for the non-refundable payment stated in the Advertisement or Invitation to Bid, may be obtained from the Issuing Office.

2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents. Bidders shall print out all of the documents as shown under the "Index of Bidding Documents" as part of their bid.

2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder's qualifications to perform the Work, within five days of Owner's request, Bidder shall submit written evidence such as financial data, previous experience, present commitments, and such other data as may be called for below.

A. The Bidder will be required to provide evidence of compliance with the requirements of O.C.G.A. 43-14 (Construction Industry Licensing Board Acts and Rules and Regulations) with respect to the requirements of the code.

B. The Bidder shall submit, for himself and for each Subcontractor who will perform more than fifteen (15) percent of the work, the following information:

1. The name, address, and telephone number of the Subcontractor.
2. Nature of the Work to be performed by the Subcontractor on this Project, including description of his Work and approximate percentage of Work Subcontractor will perform.
3. List of five similar projects completed within the last ten years by the Subcontractor, including project name; location; dates work was performed; owner's name, address, telephone number and contact; and brief description of work indicating similarity to the Work proposed for this Project.

Failure of Bidder to provide such information, if requested, within ten days of notification of request, shall be grounds for forfeiting of the bid security of that Bidder.

ARTICLE 4 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 *Subsurface and Physical Conditions***A. The General Conditions identify:**

1. Those reports, if any, of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer may have used in preparing the Bidding Documents.

2. Those drawings, if any, of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer may have used in preparing the Bidding Documents.

B. A copy of the Report of Subsurface Exploration and Geotechnical Engineering Evaluation report by Geo-Hydro Engineers Project Number 181239.20 referenced in Paragraph 4.01.A is included within these Contract Documents. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.

4.02 *Underground Facilities*

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site, where applicable, is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03 *Hazardous Environmental Condition*

A. No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner or Engineer.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions, appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions.

4.05 On request and where applicable, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.06 Reference is made to Article 7 of the General Conditions for the identification of the general nature of other work, if any, that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such other work.

4.07 It is the responsibility of each Bidder before submitting a Bid to:

A. examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;

B. visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

C. become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;

D. carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in Paragraph 4.02 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions at the Site which have been identified in Paragraph 4.06 of the General Conditions;

E. obtain and carefully study (or accept consequences of not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;

F. agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;

G. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;

H. correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;

I. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and

J. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID CONFERENCE

5.01 There will be a pre-bid conference for this project as described in the Advertisement For Bidders.

ARTICLE 6 - SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of FIVE percent (5%) of Bidder's maximum Bid price and in the form of a certified check or bank money order or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 30 days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or 60 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 - CONTRACT TIMES

9.01 The number of days within which, or the dates by which, Milestones are to be achieved and/or the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 - LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, with consideration of "Alternate Equipment" and associated deducts, noted in the Bid Form. Contract award will not, however, consider possible substitute or "or-equal" items other than the specific Alternate Equipment and deducts noted in the Bid Form. Whenever it is specified or described in the Bidding Documents that a

substitute or “or-equal” item of material or equipment may be furnished or used by Contractor if acceptable to Engineer (with the exception of Alternate Equipment in the Bid Form), application for such acceptance will not be considered by Engineer until after the Effective Date of the Agreement.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

12.01 If the General Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, in which case apparent Successful Bidder shall submit an acceptable substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

13.01 The Bid Form is included with the Bidding Documents.

13.02 All blanks on the Bid Form shall be completed by printing in ink or by typewriter and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section, Bid item, alternative, adjustment unit price item, and unit price item listed therein, or the words “No Bid,” “No Change,” or “Not Applicable” entered.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.

13.06 A Bid by an individual shall show the Bidder's name and official address.

13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown below the signature.

13.08 All names shall be typed or printed in ink below the signatures.

13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.

13.10 The address and telephone number for communications regarding the Bid shall be shown.

13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the State of Georgia or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, shall also be shown on the Bid Form

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

14.01 *Lump Sum*

A. Bidders shall submit a Bid on a lump sum basis for each Contract Part set forth in the Bid Form as lump sum.

Unit Price

B. Bidders shall submit a Bid on a unit price basis for each item of Work for each Contract Part listed in the Bid schedule.

C. The total of all estimated prices will be the sum of each Contract Part as set forth in the Bid Form. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.

D. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between words and figures will be resolved in favor of the words.

14.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in Paragraph 11.02 of the General Conditions.

14.03 Bid prices will be compared from each tank Contractor for the total price of each tank separately, and the combination of tank prices with the lowest total project price will be considered as the apparent low bidder or bidders.

ARTICLE 15 - SUBMITTAL OF BID

15.01 The Bidder is required to print out the completed Bidding Documents as listed under the Index of Bidding Documents shown in the Table of Contents. Additional information required, as indicated, on the Bid Form shall also be submitted.

15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to:

**City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542
770-967-6357**

Att: City Manager

15.03 Any bid not bearing the bidder's utility contractor license number issued by the State of Georgia Construction Industry Licensing Board, when required by state law, may not be considered by the Owner.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed, and delivered to the place where Bids are to be submitted, prior to the date and time for the opening of Bids.

ARTICLE 17 - OPENING OF BIDS

17.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 19 – EVALUATION OF BIDS AND AWARD OF CONTRACT

19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the General Conditions.

19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.

19.06 If the Contract is to be awarded, Owner will award the Contract to the lowest responsible and responsive Bidder whose Bid is in the best interests of the Project.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

20.01 Article 5 of the General Conditions sets forth Owner's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner gives a Notice of Award to the Successful Bidder or Bidders, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 30 days thereafter, Successful Bidder or Bidders shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 - SALES AND USE TAXES

22.01 Contractor is responsible for all sales and use taxes, and shall include all costs attributable to sales and use taxes in the Bid.

ARTICLE 23 - RETAINAGE

23.01 Provisions concerning Contractor's rights to deposit securities in lieu of retainage are set forth in the Agreement.

BID FORM

ARTICLE 1 – BID RECIPIENT

1.01 Project Identification:

City of Flowery Branch, Georgia
Water Tank 1 Improvements

1.02 This Bid is submitted to:

City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542

Attn: City Manager

- 1.03** The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

- 2.01** Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

1. In submitting this Bid, Bidder represents that:
- A. Bidder has examined and carefully studied the Bidding Documents, the other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged.

<u>Addendum No.</u>	<u>Addendum Date</u>
1	JUNE 21, 2022
2	JUNE 28, 2022

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that may be identified in GC-4.02, if any; and (2) all reports and drawings of Hazardous Environmental Conditions that may be identified in GC-4.06, if any.
- E. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.
- I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 – FURTHER REPRESENTATIONS

4.01 Bidder further represents that:

- L. this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;
- M. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- N. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

- O. Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

ARTICLE 5 – BASIS OF BID

- 5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

TANK 1: 250,000 GALLON SPHERIOD TANK

PART 1: 250,000 GALLON WATER STORAGE TANK LUMP SUM BID

Lump Sum price for furnishing all materials, labor, equipment, site work, yard piping, electrical and services necessary to complete the construction as shown on the plans and described in the specifications under Tank 1 and not specifically listed in the unit price items section below.

\$ 2,415,571.00

_____ Numerals

\$ TWO MILLION FOUR HUNDRED FIFTEEN THOUSAND FIVE HUNDRED SEVENTY ONE DOLLARS AND NO CENTS

_____ Words

PART 2: UNIT PRICE ITEMS

No.	Description	Qty.	Units	Unit Price	Total Amount
1.	Silt Fence (Type C)	500	L.F.	\$ 10.00 Numerals	\$ 5,000.00 Numerals
				\$ FIVE THOUSAND DOLLARS AND NO CENTS Words	
2.	Hay Bales	250	L.F.	\$ 10.00 Numerals	\$ 2,500.00 Numerals
				\$ TWO THOUSAND TWENTY-FIVE DOLLARS NO CENTS Words	

No.	Description	Qty.	Units	Unit Price	Total Amount
3.	Rip Rap (D.O.T. Type 1)	10	S.Y.	\$ <u>150.00</u> Numerals	\$ <u>1,500.00</u> Numerals
				\$ <u>ONE THOUSAND FIVE HUNDRED DOLLARS NO CENTS</u> Words	
4.	#57 Gravel Drive Replacement	200	Tons	\$ <u>75.00</u> Numerals	\$ <u>15,000.00</u> Numerals
				\$ <u>FIFTEEN THOUSAND DOLLARS NO CENTS</u> Words	
5.	Grassing (Temporary)	0.5	AC.	\$ <u>5,000.00</u> Numerals	\$ <u>2,500.00</u> Numerals
				\$ <u>TWO THOUSAND FIVE HUNDRED DOLLARS NO CENTS</u> Words	
6.	Grassing (Permanent)	0.5	AC.	\$ <u>5,000.00</u> Numerals	\$ <u>2,500.00</u> Numerals
				\$ <u>TWO THOUSAND FIVE HUNDRED DOLLARS NO CENTS</u> Words	
7.	Construction Exit	2	EA.	\$ <u>5,000.00</u> Numerals	\$ <u>10,000.00</u> Numerals
				\$ <u>TEN THOUSAND DOLLARS AND NO CENTS</u> Words	
8.	Geotechnical Testing Allowance	1	L.S.	\$ <u>25,000</u> Numerals	\$ <u>25,000</u> Numerals
				\$ <u>Twenty-five Thousand</u> Words	

Subtotal Part 2 (total of unit price items)

\$ 62,000.00

Corrected to \$ 64,000.00

CKH
Infratec

Numerals

\$ SIXTY-TWO THOUSAND DOLLARS AND NO CENTS

Words

SUMMARY OF TANK 1 COST:**Grand Total of Part 1 thru Part 2:**

\$ 2,477,571.00

Corrected to \$ 2,479,571.00

CKH
Infratec

Numerals

\$ TWO MILLION FOURHUNDRED SEVENTY -SEVEN THOUSAND FIVE HUNDRED SEVENTY ONE DOLLARS NO CENTS

Words

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work for Tank 1 will be substantially complete within 360 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions within 390 calendar days after the date when the Contract Times commence to run.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the Contract Times.

ARTICLE 7 – ATTACHMENTS TO THIS BID

- 7.01 The following documents are attached to and made a condition of this Bid:
- P. Required Bid security in the form of Bid Bond, Certified Check, Cashier's Check, or Cash. (*Strikeout inapplicable terms*). Bidders who submit Bid Security in the form of a Certified Check, Cashier's Check, or Cash are bound by the "Terms of Bid Bond" as if submitted on the attached "Bid Bond" form.
 - Q. List of Proposed Subcontractors
 - R. List of Proposed Suppliers
 - S. Affidavit of Non-Collusion
 - T. Immigration Compliance Act

ARTICLE 8 – DEFINED TERMS

- 8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders and the General Conditions.

ARTICLE 9 – BID SUBMITTAL

- 9.01 This bid submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner -- attach evidence of authority to sign)

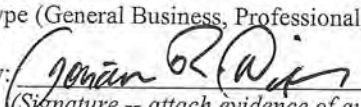
Name (typed or printed): _____

A Corporation

Corporation Name: PHOENIX FABRICATORS AMD ERECTORS LLC (SEAL)

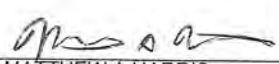
State of Incorporation: INDIANA

Type (General Business, Professional, Service, Limited Liability): LLC

By:  _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): JONATHAN R DIXON

Title: VP SALES (CORPORATE SEAL)

Attest  _____
MATTHEW A HARRIS

Date of Authorization to do business in Georgia is 4 / 10 / 2011

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address 182 SOUTH COUNTY ROAD 900 E
AVON, INDIANA 46123

Phone No. 270-318-1200 Fax No. 270-835-9990

SUBMITTED on JUNE 5, 2022

State Contractor License No. UC302175 (If applicable)



Date: 7/5/2022

Company Name: Phoenix Fabricators and Erectors, LLC

Company Address: 182 South County Rd 900 E, Avon, IN 46123

Subject: AIS Step Certification for Project

I, Jonathan R. Dixon, certify that the (melting, bending, galvanizing, cutting, etc.) processes for (manufacturing or fabricating) the following products and/or material shipped or provided for the subject project is in full compliance with the AIS requirement as mandated by Section 746 of Title VII of the Consolidated Appropriations Act of 2017 (Division A - Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2017) and subsequent statutes mandating domestic preference.

Item, Products and/or Materials, and location of delivery (City, State):

1. Avon, Indiana
2. Sebree, Kentucky

Such processes for AIS took place at the following location:

Avon, Indiana and Sebree, Kentucky

This certification is to be submitted upon request to interested parties (e.g., municipalities, consulting engineers, general contractors, etc.)

If any of the above compliance statements change while providing materials to this project, please immediately notify the person(s) who is requesting to use your product(s).

Authorized Company Representative Signature

(Note: Authorized signature shall be manufacturer's representative not the material distributor or supplier)

**CERTIFICATION BY PROPOSED PRIME CONTRACTOR OR SUBCONTRACTOR
REGARDING
EQUAL EMPLOYMENT OPPORTUNITY**

Proposed Prime Contractor PHONIX FABRICATORS AND ERECTORS LLC
Proposed Subcontractor

This certification is required pursuant to Executive Order 11246, Part II, Section 203 (b), (30 F.R. 12319-25). Any bidder or prospective prime contractor, or any of the proposed subcontractors, shall state as an initial part of the bid or negotiations of the contract whether it has participated in any previous contract or subcontract subject to the equal opportunity clause; and, if so, whether it has filed all compliance reports due under applicable instructions.

Where the certification indicated that the prime or subcontractor has not filed a compliance report due under applicable instruction, such contractor shall be required to submit a compliance report.

(1) Bidder has participated in a previous contract or subcontract subject to the Equal Opportunity Clause.
YES ☒ NO ☐

(2) Compliance Reports were required to be filed in connection with such contract or subcontract.
YES ☐ NO ☒ (If YES, state what reports were filed and with what agency.)

(3) Bidder has filed all compliance reports due under applicable instructions, including SF-100 (EEO-1 Report).
YES ☒ NO ☐ (If NO, please explain in detail.)

The information above is true and complete to the best of my knowledge and belief. (A willfully false statement is punishable by law – U.S. Code, Title 18, Section 1001.)

JONATHAN R DIXON VP SALES

PRINTED NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR OR SUBCONTRACTOR


SIGNATURE OF AUTHORIZED REPRESENTATIVE

7/05/2022
DATE

**CERTIFICATION BY PROPOSED PRIME CONTRACTOR OR SUBCONTRACTOR
REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBLE MATTERS**

Proposed Prime Contractor PHOENIX FABRICATORS AND ERECTORS LLC
Proposed Subcontractor

Under Executive Order 12549 individuals or organizations debarred from participation in Federal Assistance Programs may not receive an assistance award under federal program or sub-agreement there under for \$25,000 or more. Accordingly each recipient of a State loan or a contract (engineering or construction) awarded under a loan must complete the following certification (see 40 CFR 32.510).

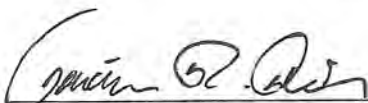
The prospective participant certifies to the best of its knowledge and belief that it and its principals;

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
- (d) Have not within a three year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause of default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. (A willfully false statement is punishable by law – U.S. Code, Title 18, Section 1001.)

JONATHAN R DIXON VP SALES

PRINTED NAME & TITLE OF AUTHORIZED REPRESENTATIVE OF CONTRACTOR OR SUBCONTRACTOR



SIGNATURE OF AUTHORIZED REPRESENTATIVE

7/05/202

DATE

____ I am unable to certify to the above statements. My explanation is as follows:

Disadvantaged Business Enterprise (DBE) Program DBE Subcontractor Utilization Form

This form is intended to capture the prime contractor's actual and/or anticipated use of identified certified DBE¹ subcontractors² and the estimated dollar amount of each subcontract. An EPA Financial Assistance Agreement Recipient must require its prime contractors to complete this form and include it in the bid or proposal package. Prime contractors should also maintain a copy of this form on file.

Prime Contractor Name PHOENIX FABRICATORS AND ERECTORS LLC		Project Name Elevated Water Tank 1 Improvements	
Bid/ Proposal No.	Assistance Agreement ID No. (if known)	Point of Contact TO BE ASSIGNED	
Address 182 SOUTH COUNTY ROAD 900 E AVON, INDIANA 46123			
Telephone No. 317-318-1200		Email Address SALES@PHOENIXTANK.COM	
Issuing/Funding Entity:			

I have identified potential DBE certified subcontractors	☒ YES	☐ NO	
If yes, please complete the table below. If no, please explain: FIND CALL LOG ATTACHED			
Subcontractor Name/ Company Name	Company Address/ Phone/ Email	Est. Dollar Amt	Currently DBE Certified?
	<i>No DBE'S utilized</i>		

Continue
on back
if needed

¹ A DBE is a Disadvantaged, Minority, or Woman Business Enterprise that has been certified by an entity from which EPA accepts certifications as described in 40 CFR 33.204-33.205 or certified by EPA. EPA accepts certifications from entities that meet or exceed EPA certification standards as described in 40 CFR 33.202.

DBE COMPLIANCE FORM

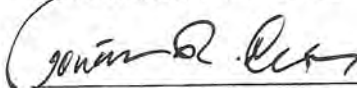
ALL INFORMATION OUTLINED ON THIS FORM IS REQUIRED FOR DBE COMPLIANCE REVIEW. THE PROPOSED PRIME CONTRACTOR AND OWNER SHOULD ENSURE THAT THIS INFORMATION IS COMPLETE PRIOR TO SUBMITTAL.

Loan Recipient CITY OF FLOWERY BRANCH

SRF Loan Number _____

PRIME CONTRACTOR'S AND OWNER'S CERTIFICATIONS:

I certify that the information submitted on and with this form is true and accurate and that this firm has met and will continue to meet the conditions of this construction contract regarding DBE solicitation and utilization. I further certify that criteria used in selecting subcontractors and suppliers were applied equally to all potential participants and that EPA Forms 6100-2 and 6100-3 were distributed to all DBE subcontractors.


(Prime Contractor signature)

Date 7/05/2022

JONATHAN R DIXON
(Printed name and title)

I certify that I have reviewed the information submitted on and with this form and that it meets the requirements of the Owner's State Revolving Fund loan contract.

(Signature of Owner or Owner's representative)

Date _____

(Printed name and title)

CONTACT INFORMATION

Owner contact City of Flowery Branch, Georgia

Owner phone number & email N/A

Consulting Engineer contact Infratec Consultants, Inc. 310 Saddle Hill Ct. Roswell, Georgia 30075

Consulting Engineer phone number & email Troxler Cell: (770) 596-1984 Hendrix Cell: (404) 861-6956

Proposed Prime Contractor PHOENIX FABRICATORS AND ERECTORS LLC

Prime Contractor contact KYLE ST.PIERRE

Prime Contractor phone number & email 317-737-2979 kyle.stpierre@phoenixtank.com

Proposed total contract amount \$ _____

Proposed total MBE participation \$ _____ Percentage _____ Goal: 4.0 percent

Proposed total WBE participation \$ _____ Percentage _____ Goal: 4.0 percent

CONTINUED ON NEXT PAGE

Task	Business	Class	Contact	Phone No.	Email	Phone Call	Email
Electric	McCall Enterprises	WBE	Chandra McCall	770-484-6402	tmccall@mccallent.com	6/22/2022	6/29/2022
Electric	B/E Electrical Contractors, Inc.	WBE	Rosa Ann Boswell	706-541-1441	beelectrical@comcast.net	6/22/2022	6/29/2022
Electric	Dixie Electric Company	WBE	Kathryn Lake	770-663-8440	klake@dixieelectric.net	6/22/2022	6/29/2022
Electric	CBK Mechanical, Inc.	MBE	Brent Steele	770-838-1949	brent.steele@cbkmechanical.com	6/22/2022	6/29/2022
Electric	Charles E. Shaw Electrical Contractor	MBE	Charles Shaw	706-213-7576	ceshawelectric@yahoo.com	6/22/2022	6/29/2022
Electric	GC Electrical Solutions, LLC	MBE	Eugene Carlton	770-716-5400	cartong@gc-es.com	6/22/2022	6/29/2022
Fence	Doyle Hancock & Sons	WBE	Andy Hancock	229-881-9514	andy@hancocksons.com	6/23/2022	6/29/2022
Fence	Charter Construction	WBE	S. Kay Broaddus	770-235-5992	kay@chartercs.com	6/22/2022	6/29/2022
Fence	Reynolds Fence & Guardrail, Inc.	WBE	Nancy Monteith	704-753-4992	nancy@reynoldsfenceandguardrail.com	6/22/2022	6/29/2022
Fence	C.F.C. Inc.	MBE	N.E. Mainer	770-507-8611	cfc@cs.com	6/22/2022	6/29/2022
Fence	Leon's Fence & Guardrail, LLC	MBE	Leon Chaplin, Jr.	843-846-6829	LF@leonsfenceandguardrail.net	6/22/2022	6/29/2022
Fence	S.T. English Construction Co., Inc.	MBE	Star English	770-895-4461	stenglishconstruction@gmail.com	6/22/2022	6/29/2022

Infratec Consultants, Inc.

Project: Elevated Water Tank 1 Improvements

BID BOND Penal Sum Form

Any singular reference to Bidder, Surety, Owner, or other party shall be considered plural where applicable.

BIDDER (Name and Address):

Phoenix Fabricators and Erectors, LLC
182 South County Road 900 East
Avon, IN 46123

SURETY (Name/Address of Principal Place of Business):

Trisura Insurance Company
2 Stamford Plaza, Suite 1504, 281 Tresser Blvd.
Stamford, CT 06901

OWNER:

City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542
770-967-6357

BID

Bid Due Date: July 7, 2022

Project/Description:

City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control, including electrical modifications and miscellaneous appurtenances.

BOND

Bond Number:

Date (Not later than Bid due date):

Penal sum:

N/A

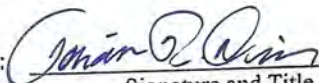
July 7, 2022

FIVE PERCENT OF BID (5%)

Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

Phoenix Fabricators and Erectors, LLC (Seal)
Bidder's Name and Corporate Seal

By: 
Signature and Title
Jonathan R. Dixon

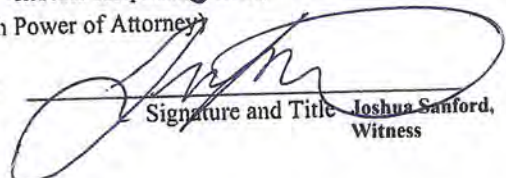
Attest: 
Signature and Title
Matt Harris, Assistant Secretary

Note: Above addresses are to be used for giving required notice.

SURETY

Trisura Insurance Company (Seal)
Surety's Name and Corporate Seal

By: 
Rebecca Josephson, Attorney-in-fact
(Attach Power of Attorney)

Attest: 
Signature and Title
Joshua Sanford,
Witness

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Surety's liability.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

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2 Stamford Plaza
Suite 1504, 281 Tresser Boulevard
Stamford, Connecticut 06901
us.surety@trisura.com

POWER OF ATTORNEY

Bond # Bid Bond

Bond issuance date: July 7, 2022

KNOW ALL MEN BY THESE PRESENTS: That TRISURA INSURANCE COMPANY, a corporation organized and existing under the laws of the State of Oklahoma, authorized to conduct a surety business, and having its principal place of business at 2 Stamford Plaza, Suite 1504, Tresser Boulevard, Stamford, Connecticut 06901, does hereby constitute and appoint:

Rebecca Josephson

their true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said TRISURA INSURANCE COMPANY, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by their regularly elected officers at their principal offices.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of the By-Laws of TRISURA INSURANCE COMPANY and is granted under and by authority of the following resolution adopted by the Board of Directors of TRISURA INSURANCE COMPANY at a meeting duly held on the 11th day of December, 2020.

"RESOLVED, that (1) the Chief Executive Officer, President, Executive Vice President, Senior Vice President, Vice President, or Secretary of the Corporation shall have the power to appoint, and to revoke the appointments of, Attorneys-in-Fact or agents with power and authority as defined or limited in their respective powers of attorney, and to execute on behalf of the Corporation and affix the Corporation's seal thereto, bonds, undertakings, recognizances, contracts of indemnity and other written obligations in the nature thereof or related thereto; and (2) any such Officers of the Corporation may appoint and revoke the appointments of joint-control custodians, agents for acceptance of process, and Attorneys-in-fact with authority to execute waivers and consents on behalf of the Corporation; and (3) the signature of any such Officer of the Corporation and the Corporation's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seals when so used whether heretofore or hereafter, being hereby adopted by the Corporation as the original signature of such officer and the original seal of the Corporation, to be valid and binding upon the Corporation with the same force and effect as though manually affixed."

IN WITNESS WHEREOF, TRISURA INSURANCE COMPANY have each executed and attested these presents on

This 11th day of March, 2021.

STATE OF Connecticut
County of Fairfield


Richard Grant, Vice President, U.S. Surety

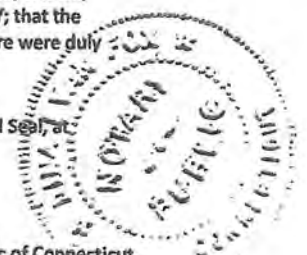


On this 11th day of March, 2021, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of TRISURA INSURANCE COMPANY; that the seals affixed to said instrument are the Corporate Seals of said Companies; that the said Corporate Seals and his signature were duly affixed by order of the Boards of Directors of said Companies.

IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the Fairfield, Connecticut the day and year first above written.

 seal
_____, a Notary Public of Connecticut

My Commission Expires: 6/30/25



DINA FOX
Notary Public, State of Connecticut
My Commission Expires June 30, 2025

TO CONFIRM AUTHENTICITY OF THIS BOND OR DOCUMENT EMAIL: us.surety@trisura.com



Telephone: +1 860-263-1042

Website: wtwco.com

E-mail: becky.josephson@willistowerswatson.com

June 27, 2022

Phoenix Fabricators & Erectors
Attn: Kyle St. Pierre
1329 US Hwy 41 North
Sebree, KY 42455

RE: **Obligee: City of Flowery Branch**
Bid Bond for: Elevated Water Tank Improvements
Bid Date: July 7, 2022

As you requested, we are pleased to provide the attached bid bond documents. This bond has been executed based upon the information we received from your office.

Please note the bond must be signed by an authorized representative of your company and if applicable, sealed with the corporate seal. We urge you to check all bond documents, including signatures, dates, amounts, job description, Power of Attorney and any other attachments to avoid the possibility of having a low bid rejected. Additionally, please verify that the bid bond form attached is the form required by the specifications.

The Bid Bond authorization is based upon your original estimate. If the bid exceeds this estimate by 10% or more, the bond must be reauthorized by the surety. Please contact us for additional authority.

Your bid results are very important. Please send your bid results to my email address shown above as soon as they are available.

Thank you for the opportunity to service your surety needs. Should you have any questions, please do not hesitate to contact me or any member of your Willis surety team.

Sincerely,

Becky Josephson

Willis Towers Watson Midwest, Inc.
10 State House Square, Floor 11
Hartford, CT 06103



182 SOUTH COUNTY ROAD 900 EAST • AVON, IN 46123-8973

STATE OF INDIANA }
 }
COUNTY OF HENDRICKS }

RESOLUTION

I, Dallas Green, CEO and President of Phoenix Fabricators and Erectors, LLC., hereby certifies that the following Resolution was adopted on the 30th day of March 2022, meeting of the Board of Directors at which a quorum was present and voted and that said Resolution remains in full force and effect, to wit:

RESOLVED, that the following officers and employees of Phoenix Fabricators and Erectors, LLC., are hereby authorized in the name of this Corporation to sign bids, proposals, execute contracts and bonds in conjunction with the performance of water and sewer construction projects.

Chief Executive Officer / President	Dallas Green
Chief Operating Officer & Executive Vice President	Kurt T. Fuller, P.E.
Vice-President Sales	Jonathan R. Dixon, P.E.
Assistant Secretary	Matthew A. Harris

IN WITNESS WHEREOF, I have hereunto set my hand and seal of this Corporation on this 30th day of March 2022.

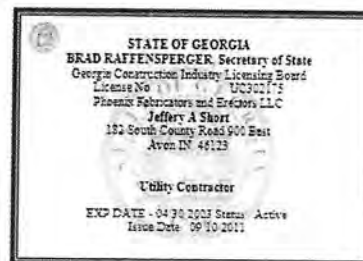
Dallas Green, Chief Executive Officer / President



A pocket-sized license card is below. Above is an enlarged copy of your pocket card.
Please make note of the expiration date on your license. It is your responsibility to renew your license before it expires. Please notify the Board if you have a change of address.
Wall certificates suitable for framing are available at cost, see board fee schedule. To order a wall certificate, please order from the web site - www.sos.ga.gov/plb.
Please refer to Board Rules for any continuing education requirements your profession may require.

Georgia State Board of Professional Licensing
237 Coliseum Drive
Macon GA 31217
Phone: (404) 424-9966
www.sos.ga.gov/plb

Phoenix Fabricators and Erectors LLC
182 South County Road 900 East
Avon IN 46123



AGREEMENT

THIS AGREEMENT is by and between City of Flowery Branch, Georgia and

Phoenix Fabricators and Erectors, LLC

Owner and Contractor, in consideration of the mutual covenants set forth herein, agree as follows:

ARTICLE 1 - WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements**

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control, including electrical modifications and miscellaneous appurtenances

ARTICLE 2 - THE PROJECT

2.01 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements**

ARTICLE 3 - ENGINEER

3.01 The Project has been designed by Infratec Consultants, Inc. (Engineer), who is to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Days to Achieve Substantial Completion and Final Payment

A. Bidder agrees that the Work for Tank 1 will be substantially complete within 360 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions,

and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions within 390 calendar days after the date when the Contract Times commence to run.

4.03 Liquidated Damages

A. Contractor and Owner recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner **\$500 (Five Hundred Dollars)** for each day that expires after the time specified in Paragraph 4.02 for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner **\$250 (Two Hundred Fifty Dollars)** for each day that expires after the time specified in Paragraph 4.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 - CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to paragraphs 5.01A and 5.01B below.

- A. The Total Base Bid amount as indicated in the Contractor's Bid (Article 5, Paragraph 5.01 of the Bid Form); the amount of:

\$ 2,415,571.00

\$ two million four hundred fifteen thousand five hundred seventy-one dollars and no cents
(Words)

Plus

- B. For all Unit Price Work, an amount equal to the sum of the unit price items as indicated in the Contractor's Bid (Article 5, Paragraph 5.01 of the Bid Form) in the amount of:

\$ 64,000.00

\$ sixty-four thousand dollars and no cents
(Words)

Sum of A and B

\$ 2,479,571.00

\$ two million four hundred seventy-nine thousand five hundred seventy-one dollars and no cents
(Words)

ARTICLE 6 - PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 Progress Payments; Retainage

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the **25th day** of each month during performance of the Work as provided in Paragraphs 6.02.A.1 and 6.02.A.2 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions:

a. **Ninety Percent (90%)** of Work completed (with the balance being retainage) and **Ninety Percent (90%)** of cost of materials and equipment not incorporated in the Work (with the balance being retainage)

b. When the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, Owner, on recommendation of Engineer, may determine that as long as the character and progress of the Work remain satisfactory to them, there will be no additional retainage; and

2. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to **Ninety-Five Percent (95%)** of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less One Hundred Percent (100%) of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 Final Payment

A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 - INTEREST

7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of Wachovia Bank's 90 CD rate adjusted per annum. The Contractor shall submit interest rate calculations on retainage data with each pay request. Failure to submit data will result in the forfeiture of interest.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Agreement Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.

B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site

conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities), if any, as provided in Paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.

E. Contractor has obtained and carefully studied (or assumes responsibility for doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto.

F. Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.

I. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 Contents

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 6, inclusive).
2. Performance bond (pages 1 to 3, inclusive).
3. Payment bond (pages 1 to 3, inclusive).
4. Other bonds (pages ____ to ____, inclusive).
 - a. ____ (pages ____ to ____, inclusive).
 - b. ____ (pages ____ to ____, inclusive).
 - c. ____ (pages ____ to ____, inclusive).

5. General Conditions (pages 00700-1 to 00700-40, inclusive).
6. Not applicable.
7. Specifications as listed in the table of contents of the Project Manual.
8. Drawings consisting of 12 sheets with each sheet bearing the following general title: **Elevated Water Tanks 1 Improvements** [or] the Drawings listed on attached sheet index.
9. Addenda (numbers 1 to 2, inclusive).
10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid.
 - b. Documentation submitted by Contractor prior to Notice of Award (pages _____ to _____, inclusive).
 - c. Affidavit of Non-Collision.
 - d. Immigration Compliance
11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed (pages _____ to _____, inclusive).
 - b. Work Change Directives.
 - c. Change Order(s).

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.01 Terms

A. Terms used in this Agreement will have the meanings stated in the General Conditions.

10.02 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement in duplicate. One counterpart each has been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____, 20__ (which is the Effective Date of the Agreement).

OWNER:

City of Flowery Branch, Georgia

By: _____

Title: _____

[CORPORATE SEAL]

Attest: _____

Title: _____

Address for giving notices:

City of Flowery Branch

5410 W. Pine Street

Flowery Branch, Georgia 30542

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Owner-Contractor Agreement.)

CONTRACTOR:

Phoenix Fabricators and Erectors, LLC

By: _____

Title: _____

[CORPORATE SEAL]

Attest: _____

Title: _____

Address for giving notices:

License No.: _____ (Where applicable)

Agent for service or process: _____

(If Contractor is a corporation or a partnership, attach evidence of authority to sign.)

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

**Phoenix Fabricators and Erectors, LLC
182 South County Road 900 East
Avon, IN 46123**

OWNER (Name and Address):

**City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542**

CONSTRUCTION CONTRACT

Date: July 7, 2022

Amount \$ 2,479,571.00

Project/Description:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements**

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control, including electrical modifications and miscellaneous appurtenances.

SURETY (Name and Address of Principal Place of Business):

BOND

Bond Number: _____

Date (Not earlier than Contract Date): _____

Amount: _____

Modifications to this Bond Form: _____

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent, or

representative.

CONTRACTOR AS PRINCIPAL

Company: _____

(Corp. Seal)

SURETY

Company: _____

(Corp. Seal)

Signature: _____

Name and Title:

Signature: _____

Name and Title:

Infratec Consultants, Inc.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.
2. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 3.1.
3. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 3.1. Owner has notified Contractor and Surety, at the addresses described in Paragraph 10 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 3.2. Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 3.1; and
 - 3.3. Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract;
 2. Another contractor selected pursuant to Paragraph 4.3 to perform the Contract.
4. When Owner has satisfied the conditions of Paragraph 3, Surety shall promptly and at Surety's expense take one of the following actions:
 - 4.1. Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and Contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
5. If Surety does not proceed as provided in Paragraph 4 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 4.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

Project: Elevated Water Tank 1 Improvements

6. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To a limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:
 - 6.1. The responsibilities of Contractor for correction of defective Work and completion of the Contract;
 - 6.2. Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions or failure to act of Surety under Paragraph 4; and
 - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.
7. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.
8. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.
 - 12.1. Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
 - 12.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
 - 12.3. Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 12.4. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or comply with the other terms thereof.

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PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

**Phoenix Fabricators and Erectors, LLC
182 South County Road 900 East
Avon, IN 46123**

OWNER (Name and Address):

**City of Flowery Branch
5410 W. Pine Street
Flowery Branch, Georgia 30542
770-967-6357**

CONSTRUCTION CONTRACT

Date: July 7, 2022

Amount \$ 2,479,571.00

Project/Description:

**City of Flowery Branch, Georgia
Elevated Water Tank 1 Improvements**

Construct a new 250,000-gallon spheroid type elevated water tank, ductile iron water piping, site grading, fencing, erosion control, including electrical modifications and miscellaneous appurtenances.

SURETY (Name and Address of Principal Place of Business):

BOND

Bond Number:

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Payment Bond to be duly executed on its behalf by its authorized

Infratec Consultants, Inc.
officer, agent, or representative.

Project: Water Tank 1 Improvements

CONTRACTOR AS PRINCIPAL

Company: _____

(Corp. Seal)

SURETY

Company: _____

(Corp. Seal)

Signature: _____

Name and Title:

Signature: _____

Name and Title:

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2. Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1. Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the addresses described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2. Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
 5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
 6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:
 - 6.1. Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2. Pay or arrange for payment of any undisputed amounts.
 7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
 8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.
 9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
 10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
 11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
 12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
 13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.
 14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
 15. DEFINITIONS
 - 15.1. Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
 - 15.2. Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
 - 15.3. Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the

Infratec Consultants, Inc.

Contract or to perform and complete or comply with the other

Project: Water Tank 1 Improvements
terms thereof.

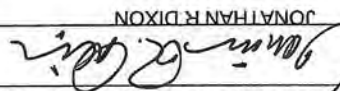
City of Flowery Branch
Project: Elevated Tank 1 Improvements

AFFIDAVIT OF NON-COLLUSION

To the City of Flowery Branch

The undersigned, as Bidder, declares that this Bid for the project known as **Flowery Branch Elevated Tank 1 Improvements** is made without collusion with any other person, firm, or corporation, that the Bidder has carefully examined the Contract Documents referred to and made a part hereof, and the Bidder agrees, if this Bid is accepted, that the Bidder will contract with The City of Flowery Branch, Georgia, to perform the Work specified in the Contract Documents, in the manner and time prescribed and according to the requirements herein set forth, and that the Bidder will accept in full payment therefore per the above prices.

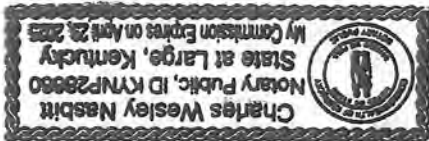
Firm Name: PHOENIX FABRICATORS AND ERECTORS LLC

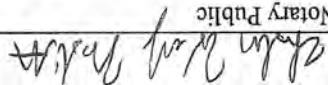
Authorized Signee:  JONATHAN R. DIXON

Title: VP SALES

DATE: 7/05/2022

Sworn to and subscribed before me this 5 day of JULY, 2022



Notary Public

07/05/22
Commission Expires April 29, 2025

**GEORGIA SECURITY AND IMMIGRATION COMPLIANCE ACT
CONTRACTOR AFFIDAVIT AND AGREEMENT**

(To be filled out and submitted as a part of the Contract Agreement between the Owner and the General Contractor.)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. 13-10-91, stating affirmatively that the individual, firm, or corporation which is contracting with the **City of Flowery Branch, Georgia** has registered with and is participating in a federal work authorization program* [any of the electronic verification of work authorization programs operated by the United States Department of Homeland Security or any equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, pursuant to the Immigration Reform and Control Act of 1986 (IRCA), P.L. 99-603], in accordance with the applicability provisions and deadlines established in O.C.G.A. 13-10-91.

The undersigned further agrees that, should it employ or contract with any subcontractor(s) in connection with the physical performance of services pursuant to this contract with the **City of Flowery Branch, Georgia**, contractor will secure from such subcontractor(s) similar verification of compliance with O.C.G.A. 13-10-91 on the Subcontractor Affidavit provided in Rule 300-10-01-.08 or a substantially similar form. Contractor further agrees to maintain records of such compliance and provide a copy of each such verification to the **City of Flowery Branch, Georgia** at the time the subcontractor(s) is retained to perform such service.

EEV / Basic Pilot Program* User Identification Number

BY: Authorized Officer or Agent
(Contractor Name)

Date

Title of Authorized Officer or Agent of Contractor

Printed Name of Authorized Officer or Agent

SUBSCRIBED AND SWORN
BEFORE ME ON THIS THE

_____ DAY OF _____, 20____

Notary Public

My Commission Expires: _____

* As of the effective date of O.C.G.A. 13-10-91, the applicable federal work authorization program is the "EEV / Basic Pilot Program" operated by the U. S. Citizenship and Immigration Services Bureau of the U.S. Department of Homeland Security, in conjunction with the Social Security Administration (SSA).

CERTIFICATION OF OWNER'S ATTORNEY

I, _____, the undersigned, the duly authorized and acting legal representative of **the City of Flowery Branch, Georgia**, do hereby certify as follows:

I have examined the attached Agreement between the Owner and Contractor for the project known as **Elevated Water Tank 1 Improvements** and the manner of execution thereof, and I am of the opinion that the aforesaid document appears on its face to have been duly executed by the proper parties thereto acting through their duly authorized representatives; that from such document said representatives appear to have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements appear to constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions, and provisions thereof.

Attorney for City of Flowery Branch

Date

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.
41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an

addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of

the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

- A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or
 2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the

Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

- 1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
- 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:

- 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
- 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
- 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

- 1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or
- 2. is of such a nature as to require a change in the Contract Documents; or
- 3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

- B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments*:

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated:*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to

permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.

- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.
- G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.
- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 - 6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.
- B. The policies of insurance required by this Paragraph 5.04 shall:
 - 1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, members, partners,

employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for two years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

- A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of

them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by the Supplementary Conditions.
 3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
 4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
 5. allow for partial utilization of the Work by Owner;
 6. include testing and startup; and
 7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued.
- B. Owner shall purchase and maintain such equipment breakdown insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as a loss payee.
- C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other loss payee to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.
- D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

- E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under this Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the loss payees, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order.
- B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

- A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 – CONTRACTOR’S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner’s written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,
 - b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.

- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or

entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its

use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner

and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts

any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.

- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.
- B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

- 1. Before submitting each Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
- 2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.
- 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

- 1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
- 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the

Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
 1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe

access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER’S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner’s duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner’s identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner’s responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner’s responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner’s Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor’s means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws

and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations

on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.
- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of,

and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 - 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 - 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 - 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of

executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
 - 1. deny the Claim in whole or in part;
 - 2. approve the Claim; or
 - 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:
 - 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
 - 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 - 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in

the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. *Contingency Allowance:*

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 2. there is no corresponding adjustment with respect to any other item of Work; and
 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:
1. a mutually acceptable fixed fee; or
 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.
- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;
 - 2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 - 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers,

architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.
- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 Schedule of Values

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 Progress Payments

A. Applications for Payments:

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. Review of Applications:

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's

review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

- a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
- a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
- a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
- b. the Contract Price has been reduced by Change Orders;
- c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
- d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. Payment Becomes Due:

- 1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. Reduction in Payment:

- 1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
- 2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.
- 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and

- d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due:

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
3. Contractor's repeated disregard of the authority of Engineer; or
4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other

dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or

2. agrees with the other party to submit the Claim to another dispute resolution process; or
3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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SUPPLEMENTARY CONDITIONS

The following paragraphs shall be added to, or replaced in Section 00700, General Conditions. Each paragraph is referenced by number corresponding with the appropriate paragraph in the General Conditions. Additional paragraphs that are added to the General Conditions shall have a letter designator following the paragraph number.

Replace entire Article 5 with the SG 5 below.

SG ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided herein.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified herein, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified herein, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

C. Failure of Owner to demand such certificates or other evidence of full compliance with these insurance requirements or failure of Owner to identify a deficiency from evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

D. By requiring such insurance and insurance limits herein, Owner does not represent that coverage and limits will necessarily be adequate to protect Contractor, and such coverage and limits shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified herein, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided herein or required by Laws or Regulations, whichever is greater;
3. include completed operations insurance;
4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other addi-

tional insured identified herein to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified herein, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

C. The limits of liability for the insurance required by Paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:

1. Workers' Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions:

a. State: Statutory Limit

b. Federal: Statutory Limit

c. Employer's Liability: \$1,000,000/1,000,000/1,000,000

2. Contractor's General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions which shall include completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody, and control of Contractor:

a. General Aggregate: \$2,000,000

b. Products and completed operations, aggregate: \$2,000,000

c. Personal and Advertising Injury: \$1,000,000

d. Each Occurrence (Bodily Injury and Property Damage): \$1,000,000

e. Property Damage liability insurance will provide Explosion, Collapse, and Underground coverages where applicable.

f. Excess or Umbrella Liability:

General Aggregate \$3,000,000

Each Occurrence \$1,000,000

3. Automobile Liability under Paragraph 5.04.A.6 of the General Conditions:

a. Combined Single Limit of Bodily Injury and Property Damage):
\$2,000,000

4. The Contractual Liability coverage required by Paragraph 5.04.B.4 of the General Conditions shall provide coverage for not less than the following amounts:

a. General Aggregate \$1,000,000

b. Each occurrence (Bodily Injury and Property Damage): \$1,000,000

5. The following individuals or entities are to be included on the indicated policies as additional insured's: City of Flowery Branch, Georgia, and Infratec Consultants, Inc.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof.

1. This insurance shall:

- a. include the interests of Owner, Contractor, Subcontractors, Engineer and any other individuals or entities identified herein, and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;
- b. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework, and materials and equipment in transit and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required herein;
- c. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);
- d. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;
- e. allow for partial utilization of the Work by Owner;
- f. include testing and startup; and
- g. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

2. Contractor shall be responsible for any deductible or self-insured retention.

3. The policies of insurance required to be purchased and maintained by Contractor in accordance with this Paragraph SC-5.06.A shall comply with the requirements of paragraph 5.06.C of the General Conditions.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required herein or by the Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified herein, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been

given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any deductible amounts that are identified herein. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified herein to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified herein to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

SG2.02 Replace Article 2.02 paragraph A with the following: A. Owner shall furnish the Contractor with a set of conformed construction drawings in an electronic version of each in PDF format along with one copy of the conformed specifications in PDF format. Owner will furnish 4 sets of the contract documents (specifications) for execution by the Contractor with 2 copies for the Owner, and 2 copies for the Contractor.

SG3.06 Replace Article 3.06 Electronic Data Paragraph A with the following: A. The Owner or Engineer may furnish electronic data to the Contractor or Contractor to Owner or Engineer as needed. Electronic format will be defined as PDF format.

SECTION 01120 – ALLOWANCES

PART 1 – GENERAL

1.1 SUMMARY

The Contractor shall include in his unit price bid proposal the allowances stated herein. These allowances shall cover all equipment, materials and services necessary for the contractor or others to complete the work called for herein. The Contractor's cost for handling, coordinating and any other costs that are necessary to complete these items but not specifically covered in the allowance shall be included in the Contractor's lump sum bid. If the final amount of any allowance item is **less than** the listed cost, the cost shall then be adjusted to reflect actual cost.

PART 2 - SCHEDULE OF ALLOWANCES

2.1 GEOTECHNICAL ALLOWANCE

The Contractor shall coordinate with the geotechnical firm (Geo-Hydro) to perform soils evaluation and compaction testing for the tank foundation sub-grade. The cost for these services shall be covered under an allowance item. The Contractors cost for coordination will be included in the lump sum bid for the tank. Note that concrete testing will be included in the Contractors lump sum bid amount.

PART 3 – EXECUTION

3.1 INSTRUCTIONS TO BIDDERS

The Contractor shall include the invoices from each vendor of an allowance item on their pay request.

END OF SECTION 01120

Infratec Consultants, Inc.

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SECTION 01150 MEASUREMENT AND PAYMENT

PART 1- GENERAL

1.1 GENERAL

No quantities shall be measured for payment except items listed in the proposal, unless the Owner has approved "extra" work in accordance with the contract documents and has so advised the Contractor before the work was actually performed.

Any and all other materials, labor, etc., furnished and required shall be considered as incidental to the items to be measured.

The unit or lump sum prices bid for the various items shall be full compensation for furnishing all materials, tools, equipment, labor and incidentals necessary and/or required to complete the work as shown on the plans and called for in the specifications.

The quantities to be paid for shall be determined by actual measurement of the amounts placed. The Owner's Consultant shall make all measurements and the Contractor shall make certain all work has been measured before concealing; otherwise, he may be required to uncover or make accessible any work so concealed in order to receive payment for such items.

1.2 Part 1: LUMP SUM ITEMS

All items shown on the plans or called for in the specifications and not specifically shown in the proposal as not being included will be paid for at the lump sum price shown in the proposal. Lump sum items will be paid for based on approved construction schedules and percentage of lump sum item actually completed at time of pay request.

1. 250,000 Gallon Water Storage Tank

Payment for this Part of the Construction Contract shall include all materials, equipment, tools, labor, incidentals, and appurtenances necessary to construct the 250,000 gallon "spheroid" type water storage tank as shown on the plan drawings and called for in the specifications. This Part shall include but not be limited to: site grading and piping; valve vault and valves; asphalt and gravel drives, chain link fence and gates; reinforced concrete foundation; fabrication, installation, painting and testing of the steel tank and accessories. All items of construction not specifically listed as a unit price item shall be included in the lump sum bid.

1.3 Part 2: UNIT PRICE ITEMS

All items shown on the plans and called for in the specifications, listed as unit price items on the bid form, will be paid for at the unit item price shown in the proposal. The unit price shall include all materials, equipment, tools, labor, incidentals, and appurtenances required to complete the work as shown on the plan drawings and called for herein. Allowance unit price items shall be paid based upon invoices from the vendor attached to the Contractors pay estimate.

1. Silt Fence Type C (Linear Foot)

This item will be paid for at the unit price item bid per linear foot of silt fence installed as measured in place. This price will include maintaining silt fence during construction of the project, replacement if required, and removal upon completion of the project in conjunction with satisfactory vegetative grassing having been established.

2. Hay Bales Double Row (Including Mulch)

Payment for this item will be at the unit price bid per linear foot of hay bales installed as measured

in place.

3. Rip Rap D.O.T. Type 1

This item will be paid for at the unit price bid in the proposal. The unit price bid per square yard shall be full compensation all materials, hauling, labor, and equipment necessary to complete the work. The stone will be measured in place with the area obtained by multiplying length times the width.

4. #57 Gravel Drive Replacement

This item will be paid for at the unit price bid in the proposal. The unit price bid per ton shall be full compensation for all materials, hauling, labor, and equipment necessary to replace all disturbed gravel roads.

5. Construction Exit

This item will be paid for at the unit price bid in the proposal. The price shall include installation, maintenance, and removal.

6. Grassing (Temporary and Permanent)

This item will be paid for at the unit price item bid per acre for grassing of the disturbed areas as indicated on the drawings and called for in the specifications. Payment will be for established temporary or permanent grassing of the disturbed areas with the area quantity being measured by multiplying length times the width to the nearest 0.1 acre.

7. Geotechnical Testing Allowance

This item will be paid for at the unit price bid for the allowance associated with providing soils compaction testing along the pipeline backfill area. The locations will be as directed by the Owner and as coordinated by the Contractor. The exact price will be as provide by an invoice from the Geotechnical firm and the final unit price item will be adjusted accordingly.

8. Remove and Replace Existing Fence

This item will be paid for at the unit price bid in the proposal. The price shall include removing and replacing the existing fence and post as needed for access to the site. The Contractor shall provide temporary barrier fencing during hours not on site.

1.3 STORED MATERIALS

Stored materials prices will be reimbursable at the price paid for the product by the Contractor. Only those materials which are properly stored on the job site to the approval of the Owner's Consultant will be paid for as stored material and a bill-of-sale for each item must be submitted with each monthly pay request for stored material. A ten percent retain age shall be held on stored materials. All cost associated with covering and protecting stored materials and equipment will be borne by the Contractor. The stored materials amount may not be larger than the total amount of the bid price item.

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6HFXUH WLP FRPPLWPHQWV IRU SHUIRUPLQJ FULWLFDO HOH
LQYROYHG

&RRUGLQDWH HDFK FRQVWUXFWLRQ DFWLYLW\ LQ WKH QHWZ
WKHP LQ SURSHU VHTXHGFH

3\$57 352'8&76

68%0,77\$/6 6&+('8/(

\$ 3UHSUDUDWLRQ 6XEPLW D VFKHGXOH RI VXEPLWWDOV DUUDQ
UHTXLUH E\ FRQVWUXFWLRQ VFKHGXOH ,QFOXGH WLP UHTX
PDQXIDFWXULQJ IDEULFDWLRQ DQG GHOLYHU\ ZKHQ HVWDEOL

&RRUGLQDWH 6XEPLWWDOV 6FKHGXOH ZLWK OLVW RI VXEFRQ
&RQUUDFWRU V &RQVWUXFWLRQ 6FKHGXOH

6XEPLW FRQFXUUHQWO\ ZLWK WKH ILUVW FRPSOHWH VXEPLW
6FKHGXOH

&2175\$&725 6 &216758&7,21 6&+('8/(*(1(5\$/

\$ 7LPH)UDPH ([WHQG VFKHGXOH IURP GDWH HVWDEOLVKHG IRU
)LQDO &RPSOHWLRQ

&RQUUDFW FRPSOHWLRQ GDWH VKDOO QRW EH FKDQJHG E\ V
DQ HDUO\ FRPSOHWLRQ GDWH XQOHVV VSHFLILFDOO\ DXWKR

% \$FWLYLWLHV 7UHDW HDFK DUHD DV D VHSDUDWH QXPEHUG
:RUN &RPSO\ ZLWK WKH IROORZLQJ

\$FWLYLW\ 'XUDWLRQ

3URFXUHPHQW \$FWLYLWLHV ,QFOXGH SURFXUHPHQW SURFH
LWHPV DQG PDMRU LWHPV UHTXLULQJ D F\FOH RI PRUH WKD
VFKHGXOH 3URFXUHPHQW F\FOH DFWLYLWLHV LQFOXGH EX
DSSURYDOV SXUFKDLV LQJ IDEULFDWLRQ DQG GHOLYHU\

6XEPLWWDO 5HYLHZ 7LPH ,QFOXGH UHYLHZ DQG UHVXEPLW
6HFWLRQ 6XEPLWWDO 3URFHGXUHV LQ VFKHGXOH &RRUGL
&RQUUDFWRU V &RQVWUXFWLRQ 6FKHGXOH ZLWK 6XEPLWWDO

6WDUWXS DQG 7HVWLQJ 7LPH

&LW\ RI)ORZHU\ %UDQFK &RQVWUXFWLRQ 3URJUHVV 'REFX
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV %LG 6HW

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6XEVWDQWLDO &RPSOHWLRQ ,QGLFDWH FRPSOHWLRQ LQ DG
6XEVWDQWLDO &RPSOHWLRQ DQG DOORZ WLPB IRU 2ZQHUV
SURFHGXUHV QHFHVVDU\ IRU FHUWLILFDWLRQ RI 6XEVWDQWL
& &RQVWUDLQWV ,QFOXGH FRQVWUDLQWV DQG ZRUN UHVWULFV
DQG DV IROORZV LQ VFKHGXOH DQG VKRZ KRZ WKH VHTXHQFH
3KDVLRQJ \$UUDQJH OLVW RI DFWLYLWLHV RQ VFKHGXOH E\ S
:RUN 5HVWULFWLRQV 6KRZ WKH HHHFW RI WKH IROORZLQJ
D &RRUGLQDWLRQ ZLWK H[LVWLQJ FRQVWUXFWLRQ
E /LPLWDWLRQV RI FRQLQXHG RFFXSDQFLHV
F 8QLQWHUUXSWLEOH VHUFLHV
G 3DUWLDO RFFXSDQF\ EHIRUH 6XEVWDQWLDO &RPSOHWLRQ
H 8VH RI SUHPLVHV UHVWULFWLRQV
I 3URYLVLRQV IRU IXWXUH FRQVWUXFWLRQ
J 6HDVRQDO YDULDWLRQV
K (QYLURQPHQWDO FRQWURO
:RUN 6WDJHV ,QGLFDWH LPSRUWDQW VWDJHV RI FRQVWUXF
:RUN
OLOHVWRQH ,QFOXGH PLOHVWRQH LQGLFDWHG LQ WKH &
LQFOXGLQJ EXW QRW OLPLWHG WR WKH 1RWLFH WR 3URFH
&RPSOHWLRQ
' &RQWUDFW 0RGLILFDWLRQV)RU HDFK SURSRVHG FRQWUDFW
VXEPLVVLRQ SUHSDUH D WLPB LPSDFW DQDO\VLV XVLQJ IUDJQ
SURSRVHG FKDQJH RQ WKH RYHUDOO SURMHFW VFKHGXOH

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\$ *HQHUDO 3UHSDUH QHWZRUN GLDJUDPV XVLQJ \$21 DFWLYLW
% 3UHOLPLQDU\ 1HWZRUN 'LDJUDP 6XEPLW GLDJUDP ZLWKLQ
1RWLFH WR 3URFHG 2XWOLQH VLJQLILFDQW FRQVWUXFWLRQ
FRQVWUXFWLRQ ,QFOXGH VNHOWRQ GLDJUDP IRU WKH UHPD
UHTXLUPHQW SUHGLFWLRQ EDVHG RQ LQGLFDWHG DFWLYLWLHV
& &30 6FKHGXOH 3UHSDUDWLRQ 3UHSDUH D OLVW RI DOO DFWL
8VLQJ WKH SUHOLPLQDU\ QHWZRUN GLDJUDP SUHSDUH D VNHOW
FULWLFDO SDWKV
\$FWLYLWLHV ,QGLFDWH WKH HVWLPDWHG WLPB GXUDWLRQ
RI HDFK DFWLYLW\ LQ UHODWLRQ WR RWKHU DFWLYLWLHV ,
IROORZLQJ DFWLYLWLHV
D 3UHSDUDWLRQ DQG SURFHVVLRQ RI VXEPLWDOV
E 0RELOLJDWLRQ DQG GHPRELOLJDWLRQ
F 3XUFKDVH RI PDWHULD
G 'HOLYHU\
H)DEULFDWLRQ

&LW\ RI)ORZHU\ %UDQFK &RQVWUXFWLRQ 3URJUHVV 'RFX
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV %LG 6HW

I 8WL0LW\ LQWHUUXSWLRQV
J ,QVWDOODWLRQ
K :RUN E\ 2ZQHU WKDW PD\ DIIHFW RU EH DIIHFWHG E\ &RQW
L 7HVWLQJ
&ULWLFD0 3DWK \$FWLYLWLHV ,GHQWLI\ FULWLFD0 SDWK DF
FRPSOHWLRQ GDWHV 6FKHGXOHG VWDUW DQG FRPSOHWLRQ
&RQWUDFW PLOHVWRQH GDWHV
3URFHVV LQJ 3URFHVV GDWD WR SURGXFH RXWSXW GDWD R
QHWZRUN 5HYLVH GDWD UHRUJDQLJH DFWLYLW\ VHTXHQFHV
QHFHVVDU\ WR SURGXFH WKH &30 VFKHGXOH ZLWKLQ WKH OL
)RUPDW 0DUN WKH FULWLFD0 SDWK /RFDWH WKH FULWLFD
SDWKV ZLWK PRVW IORDW QHDU WKH HGJHV
D 6XEQHWZRUNV RQ VHSUDWH VKHHWV DUH SHUPLVVLEOH
SDWK
' ,QLWLDO ,VXXH RI 6FKHGXOH 3UHSDUH LQLWLDO QHWZRUN GL
WRWDO IORDW VRUW ,GHQWLI\ FULWLFD0 DFWLYLWLHV 3UH
&RQWUDFWRU RU VXEFRQWUDFWRU DQG WKH :RUN RU DFWLY
'HVFULSWLRQ RI DFWLYLW\
3ULQFLSDO HYHQWV RI DFWLYLW\
,PPHGLDWH SUHFHGLQJ DQG VXXFHGHGLQJ DFWLYLWLHV
(DUO\ DQG ODWH VWDUW GDWHV
(DUO\ DQG ODWH ILQLVK GDWHV
\$FWLYLW\ GXUDWLRQ LQ ZRUNGD\W
7RWDO IORDW RU VODFN WLP
\$YHUDJH VLJH RI ZRUNIRUFH
(6FKHGXOH 8SGDWLQJ &RQFXUUHQW ZLWK PDNLQJ UHYLVLRQV
VKRZLQJ WKH IROORZLQJ
,GHQWLILFDWLRQ RI DFWLYLWLHV WKDW KDYH FKDQJHG
&KDQJHV LQ HDUO\ DQG ODWH VWDUW GDWHV
&KDQJHV LQ HDUO\ DQG ODWH ILQLVK GDWHV
&KDQJHV LQ DFWLYLW\ GXUDWLRQV LQ ZRUNGD\W
&KDQJHV LQ WKH FULWLFD0 SDWK
&KDQJHV LQ WRWDO IORDW RU VODFN WLP
&KDQJHV LQ WKH &RQWUDFW 7LP
5(32576
\$ 'DLO\ &RQVWUXFWLRQ 5HSRUWV 3UHSDUH D GDLO\ FRQVWUXF
LQIRUPDWLRQ FRQFHUQLQJ HYHQWV DW 3URMHFW VLWH
/LVW RI VXEFRQWUDFWRUV DW 3URMHFW VLWH
(TXLSPHQW DW 3URMHFW VLWH

&LW\ RI)ORZHU\ %UDQFK &RQVWUXFWLRQ 3URJUHVV 'RFX
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV %LG 6HW

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0DWHULDO GHOLYHULHV

+LJK DQG ORZ WHPSHUDWXUHV DQG JHQHUDO ZHDWKHU FRQ
\$FFLGHQWV

6WRSSDJHV GHOD\ VKRUWDJHV DQG ORVVHV

0HWHU UHGDLQJV DQG VLPLODU UHFRUGLQJV

2UGHUV DQG UHTXHVWV RI DXWKRULWLHV KDYLQJ MXULVGLF

6HUYLEFHV FRQQHFHWG DQG GLVFRQQHFHWG

(TXLSPHQW RU V\WHP WHVWV DQG VWDUWXSV

%)LHOG &RQGLWLRQ 5HSRUW ,PPHGLDWHO\ RQ GLVFRYHU\ RI
DQG WKH &RQUDFW 'RFXPHQWV SUHSDUH DQG VXEPLW D GHV
GHVFULSWLRQ RI WKH GLIHULQJ FRQGLWLRQV WRJHWKHU ZLW
&RQUDFW 'RFXPHQWV

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\$ &RQUDFWRU V &RQVUXFWLRQ 6FKHGXOH 8SGDWLQJ \$W PR
UHIOHFW DFWXDO FRQVUXFWLRQ SURJUHVV DQG DFWLYLWLHV
UHJXODUO\ VFKHGXOHG SURJUHVV PHHWLQJ

5HYLVH VFKHGXOH LPPHGLDWHO\ DIWHU HDFK PHHWLQJ RU R
EHHQ UHFRJQLJHG RU PDGH ,VVXH XSGDWHG VFKHGXOH FRQ
VXFK PHHWLQJ

,QFOXGH D UHSRUW ZLWK XSGDWHG VFKHGXOH WKDW LQGLFD
OLPLWHG WR FKDQJHV LQ ORJLF GXUDWLRQV DFWXDO VWD

\$V WKH :RUN SURJUHVVHV LQGLFDWH \$FWXDO &RPSOHWLRQ

% 'LVWULEXWLRQ 'LVWULEXWH FRSLHV RI DSSURYHG VFKHGXOH
FRQUDFWRUV WHVWLQJ DQG LQVSHFWLQJ DJHQFLHV DQG RW
QHGG WR NQRZ VFKHGXOH UHVSQVLELOLW\

3RVW FRSLHV LQ 3URMHFW PHHWLQJ URRPV DQG WHPSRUDU\

:KHQ UHYLVLRQV DUH PDGH GLVWULEXWH XSGDWHG VFKHGX
WKH VDPH ORFDWLRQV 'HOHH SDUWLHV IURP GLVWULEXWL
DVVLJQH SRUWLRQ RI WKH :RUN DQG DUH QR ORQJHU LQYRQ
DFWLYLWLHV

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&LW\ RI)ORZHU\ %UDQFK &RQVUXFWLRQ 3URJUHVV 'RFX
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV %LG 6HW

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7KL V 3DJH ,QWHQWLRQDOO\ /HIW %ODQN

&LW\ RI)ORZHUI\ %UDQFK &RQVWUXFWLRQ 3URJUHVV 'RFX
(OHYDWHG :DWHU 7DQN ,PSURYHHPHQWV %LG 6HW

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68%0,77\$/ 352&('85(6

3\$57 *(1(5\$/

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\$ 7KLV 6HFWLRQ VSHFLILHV WKH JHQUHO PHWKRGV DQG UHTXL
6KRS 'UDZLQJV 3URGXFW 'DWD 6DPSOHV DQG &RQVWUXFW
\$GGLWLRQDO JHQUHO VXEPLVVLRQ UHTXLUHPHQWV DUH FRQ
'HWDLOHG VXEPLWWDO UHTXLUHPHQWV DUH VSHFLILHG LQ WKH

% \$OO VXEPLWWDOV VKDOO EH FOHDUO\ LGHQWLILHG E\ UHIHUC
1XPEHU RU 'HWDLO DV DSSOLFDEOH 6XEPLWWDOV VKDOO EH FO
SUHVHQDWLRQ RI GDWD

& 6XEPLW D OLVW RI VKRS GUDZLQJV LQGLFDWLQJ VSHFLILFD
VXEPLVVLRQ VFKHGXOH IRU DOO VKRS GUDZLQJV IRU WKH &RQV

6+23 '5\$: ,1*6 352'8&7 '\$7\$ 6\$03/(6

\$ 6KRS 'UDZLQJV

6KRS GUDZLQJV DV VSHFLILHG LQ LQGLYLGXDO 6HFWLRQV LQ
IDEULFDWLRQ DQG HUHFWLRQ LQVWDOODWLRQ ZRUNLQJ GU
GLDJUDPV DFWXDO VKRSZRUN PDQXIDFWXULQJ LQVWUXFWLR
GLDJUDPV FRRUGLQDWLRQ GUDZLQJV LQGLYLGXDO V\ VWHP
UHSRUWV LQFOXGLQJ SHUIRUPDQFH FXUYHV DQG FHUWLILFDW

\$OO VKRS GUDZLQJV VXEPLWWHG E\ VXEFRQWUDFWRUV VKDO
FKHFNLQJ 7KH &RQWUDFWRU VKDOO EH UHVSQVLEOH IRU W
DV WR SUHYHQW GHOD\ LQ GHOLYHU\ RI PDWHULDOV

&KHFN DOO VXEFRQWUDFWRU V VKRS GUDZLQJV UHJDUGLQJ
PDWHULDOV DQG GHWDLOV WR PDNH VXUH WKDW WKH\ FRQF
UHODWHG 6HFWLRQV 5HWXUQ VKRS GUDZLQJV IRXQG WR EH
WKH VXEFRQWUDFWRUV IRU FRUHFWRQ SULRU WR VXEPLV

\$OO GHWDLOV RQ VKRS GUDZLQJV VKDOO VKRZ FOHDUO\ WK
PDLQ PHPEHUV DQG OLQHV RI WKH VWUXFWXUH DQG ZKHUH
GHSHQG XSRQ ILHOG PHDVXUHPHQWV VXFK PHDVXUHPHQWV
GUDZLQJV EHIRUH EHLQJ VXEPLWWHG

% 3URGXFW 'DWD

3URGXFW GDWD DV VSHFLILHG LQ LQGLYLGXDO 6HFWLRQV
PDQXIDFWXUH SURGXFWV VRPHWLPHV UHIHUHG WR DV
PDQXIDFWXUH V SURGXFW VSHFLILFDWLRQ DQG LQVWDOODW
SDWWHUQV PDQXIDFWXUH V SULQWHG VWDWHPHQWV RI FRI
GLDJUDPV DQG WHPSODWHV FDWDORJ FXWV SURGXFW SKRV
SULQWHG SHUIRUPDQFH FXUYHV DQG RSHUDWLRQDO UDQJH G
LQVSHFWLRQ DQG WHVW UHSRUWV DQG FHUWLILFDWLRQV
PDLQWHQDQFH LQVWUXFWLRQV DQG UHFRPPHQGHG VSDUH S
ZDUUDQWLHV DV DSSOLFDEOH WR WKH ZRUN

& 6DPSOHV

&LW\ RI)ORZHU\ %UDQFK
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV

6XEPLWWDO 3URFHGX
%LG 6HW

r

6DPSOHV VSHFLILHG LQ LQGLYLGXDO 6HFWLRQV LQFOXGH S
VHFWLRQV RI PDQXIDFWXUH RU IDEULFDWHG ZRUN VPDOO
FRPSOHWH XQLWV RI UHSHWLWLYHO\ XVHG SURGXFWV FROR
VHWV VSHFLPHQV IRU FRRUGLQDWLRQ RI YLVXDO HHHFW JU
XVHG E\ WKH (QJLQHUU RU ZZQHU IRU LQGHSHQGHQW LQVSH
WKH ZRUN

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\$ 5HYLHZ VKRS GUDZLQJV SURGXFW GDWD DQG VDP SOHV LQFOX
VXEPLVVLRQ WR GHWHUPLQH DQG YHUL\ WKH IROORZLQJ

)LHOG PHDVXUHPHQWV

)LHOG FRQVWUXFWLRQ FULWHULD

&DWDORJ QXPEHUV DQG VLPLODU GDWD

&RQIRUPDQFH ZLWK VSHFLILFDWLRQV

% (DFK VKRS GUDZLQJ VDP SOH DQG SURGXFW GDWD VXEPLWWH
&RQWUDFWRU V VWDPS LQLWLDOHG RU VLJQHG FHUWLI\LQJ
SURGXFWV ILHOG PHDVXUHPHQWV DQG ILHOG FRQVWUXFWLR
LQIRUPDWLRQ ZLWKLQ WKH VXEPLWWDO ZLWK UHTXLUHPHQWV R

& 6KRS GUDZLQJV DQG SURGXFW GDWD VKHHWV LQ [LQ DQ
DQ RUGHUO\ IDVKLRQ DQG EHDU WKH DERYH &HUWLILFDWLRQ 6V
VKHHW VKDOO IXOO\ GHVFULEH WKH SDFNDJHG GDWD DQG LQ
SDFNDJH 3URYLGH WR WKH 5HVLGHQW 3URMHFW 5HSUHVHQWDV
VKRS GUDZLQJV SURGXFW GDWD DQG VDP SOHV DW WKH WLPH R

' 7KH &RQWUDFWRU VKDOO XWLOLJH D VXEPLWWDO LGHQWLILF
PDQQHU

7KH ILUVW ILYH GLJLWV VKDOO EH WKH DSSOLFDEOH 6HFWLR

7KH QH[W WKUHH GLJLWV VKDOO EH WKH QXPEHUV WR
VHSDUDWH LWHP RU GUDZLQJ VXEPLWWHG XQGHU HDFK VSHFL

7KH ODVW FKDUDFWHU VKDOO EH D OHWWHU \$ WR = LQGLF
WKH VDPH 'UDZLQJ L H \$ VW VXEPLVVLRQ % QG VXEPLV
W\SLFDO VXEPLWWDO QXPEHU ZRXOG EH DV IROORZV

%

6HFWLRQ IRU &RQFUHWH

7KH HLJKWK LQLWLDO VXEPLWWDO XQGHU WKLV VHFW

% 7KH VHFRQG VXEPLVVLRQ ILUVW UHVXEPLVVLRQ RI WK

(1RWLI\ WKH (QJLQHUU LQ ZULWLQJ DW WKH WLPH RI VXEPLWW
WKH UHTXLUHPHQWV RI WKH &RQWUDFW 'RFXPHQWV

) 7KH UHYLHZ DQG DSSURYDO RI VKRS GUDZLQJV VDP SOHV RU S
UHOHYH WKH &RQWUDFWRU IURP WKH UHVSQVLELOLW\ IRU W
7KH &RQWUDFWRU DVVXPHV DOO ULNVV RI HUURU DQG RPLVV
UHVSQVLELOLW\ WKHUH IRU

* 1R SRUWLRQ RI WKH ZRUN UHTXLULQJ D VKRS GUDZLQJ VDP SO
VKDOO DQ\ PDWHULDOV EH IDEULFDWHG RU LQVWDOOHG SULRU
VXFK LWHP)DEULFDWLRQ SHUIRUPHG PDWHULDOV SXUFKDVHG

&LW\ RI)ORZHU\ %UDQFK
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV

6XEPLWWDO 3URFHGX
%LG 6HW

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ZKLFK GRHV QRW FRQIRUP WR DSSURYHG VKRS GUDZLQJV DQG G
7KH 2ZQHU ZLOO QRW EH OLDEOH IRU DQ\ H[SHQVH RU GHOD
UHTXLUHG WR DFFRPSOLVK FRQIRUPLW\

+ 3URMHFW ZRUN PDWHULDOV IDEULFDWLRQ DQG LQVWDOODWL
DSSOLFDEOH VDP SOHV DQG SURGXFW GDWD

68%0,66,21 5(48,5(0(176

\$ 0DNH VXEPLWWDOV SURPSWO\ LQ DFFRUGDQFH ZLWK DSSURYH
FDXVH QR GHOD\ LQ WKH :RUN RU LQ WKH ZRUN RI DQ\ RWKHU F

% (DFK VXEPLWWDO DSSURSULDWHO\ FRGHG ZLOO EH UHWXUQH
RI VXEPLWWDO E\ WKH (QJLQHUU

& 1XPEHU RI VXEPLWWDOV UHTXLUHG

6KRS 'UDZLQJV)RXU FRSLHV

3URGXFW 'DWD 7KUHH FRSLHV

6DPSOHV 6XEPLW WKH QXPEHU VWDWHG LQ WKH UHVSFWLY

' 6XEPLWWDOV VKDOO FRQWDLQ

7KH GDWH RI VXEPLVLVRQ DQG WKH GDWHV RI DQ\ SUHYLRXV

7KH 3URMHFW WLWOH DQG QXPEHU

&RQWUDFWRU LGHQWLILFDWLRQ

7KH QDPHV RI

D &RQWUDFWRU

E 6XSSOLHU

F 0DQXIDFWXUHU

,GHQWLILFDWLRQ RI WKH SURGXFW ZLWK WKH VHFWRU QXP

)LHOG GLPHQVLRQV FOHDUO\ LGHQWLILHG DV VXF

5HODWLRQ WR DGMDFHQW RU FULWLFDO IHDWXUHV RI WKH Z

\$SSOLFDEOH VWDQGDUGV VXF DV \$670 RU)HGHUO 6WDQG

,GHQWLILFDWLRQ RI GHYLDWLRQV IURP &RQWUDFW 'RFXPHQW

,GHQWLILFDWLRQ RI UHYLVLVRQV RQ UHVXEPLWWDOV

\$Q LQ [LQ EODQN VSDFH IRU &RQWUDFWRU DQG (QJLQH

:KHUH FDOFXODWLRQV DUH UHTXLUHG WR EH VXEPLWWHG EV

RWKHU WKDQ WKH SUHSDUHU VKDOO KDYH FKHFNHG WKH FDO

VKDOO FOHDUO\ VKRZ WKH QDPHV RI WKH SUHSDUHU DQG RI V

(&RQWUDFWRU PD\ HOHFW WR VFDQ VKRS GUDZLQJV DQG VXEPL
ZLWK D &RYHU VKHHW IRU HDFK VXEPLWWDO ZLWK WKH DERYH L

5(9,(: 2) 6+23 '5\$:,1*6 352'8&7 '\$7\$:25.,1* '5\$:,1*6 \$1' 6\$03/(6

\$ 7KH UHYLHZ RI VKRS GUDZLQJV GDWD DQG VDP SOHV ZLOO EH

&LW\ RI)ORZHU\ %UDQFK

6XEPLWWDO 3URFHGX

(OHYDWHG :DWHU 7DQN ,PSURYHHPHQWV

%LG 6HW

r

GHVLJQ FRQFHSW DQG &RQWUDFW 'RFXPHQWV 7KH\ VKDOO QRV
\$V SHUPLWWLQJ DQ\ GHSDUWXUH IURP WKH &RQWUDFW UHTX
\$V UHOLHYLQJ WKH &RQWUDFWRU RI UHVSQRVLELOLW\ IRU D
DQG PDWHULDOV
\$V DSSURLQJ GHSDUWXUHV IURP GHWDLOV IXUQLVKHG E\
SURLGHHG KHUHLQ
% 7KH &RQWUDFWRU UHPDLQV UHVSQRVLEOH IRU GHWDLOV DQG
DOO RWKHU DVVRFLDWHG ZRUN DQG WUDGHV IRU VHOHFWLQJ
DVVHPEO\ DQG IRU SHUIRUPLQJ ZRUN LQ D VDIH PDQQHU
& ,I WKH VKRS GUDZLQJV GDWD RU VDP SOHV DV VXEPLWWHG GH
IURP WKH &RQWUDFW UHTXLUPHQWV ZKLFK (QJLQH HU ILQGV W
EH VR PLQRU DV QRW WR LQYROYH D FKDQJH LQ &RQWUDFW 3UL
UHWXUQ WKH UHYLHZHG GUDZLQJV ZLWKRXW QRWLQJ DQ H[FH
' 6XEPLWWD OV ZLOO EH UHWXUQH G WR WKH &RQWUDFWRU XQGH
312 (;&(37,216 127(' ,QGLFDWHV WKH VXEPLWWD KDV
FRQIRUPDQFH ZLWK WKH &RQWUDFW 'RFXPHQWV DQG QR H[FH
ZLWK WKH ZRUN
30\$. (&255(&7,216 127(' ,QGLFDWHV WKH VXEPLWWD KDV
FRQIRUPDQFH ZLWK WKH &RQWUDFW 'RFXPHQWV DQG ZRUN PD
FRPPHQWV 5H VXEPLWWD ZLOO QRW EH UHTXLHG
35(9,6(\$1' 5(68%0,7' ,QGLFDWHV WKH VXEPLWWD KDV EHH
ZLWK WKH &RQWUDFW 'RFXPHQWV DQG ZRUN PD\ QRW SU
H[FHSLRQV KDYH EHHQ WDNHQ DUH FRUHFHWHG &RQWUDFW
UHYLHZ
35(-(&7(' ,QGLFDWHV WKH VXEPLWWD GRHV QRW PHHW
'RFXPHQWV \$ QRWDWLRQ ZLOO EH PDGH RQ WKH VKRS GUD
7KH &RQWUDFWRU PXVW UHVXEPLW WKH HQWLUH SDFNDJH
FRQIRUPDQFH ,W PD\ EH QHFHVVDU\ WR UHVXEPLW XVLRQJ D
PHHW WKH &RQWUDFW 'RFXPHQWV
368%0,7 63(&),(' ,7(0' ,QGLFDWHV WKDW RQH RU PRUH LW
PLVVLQJ RU LQFRPSOHWH :RUN PD\ FRPPHQFH RQ DQ\ LWHP
WDNHQ PLVVLQJ RU LQFRPSOHWH LWHPV PXVW EH VXEPLWWH
(5H VXEPLWWD OV ZLOO EH KDQGOHG LQ WKH VDPH PDQQHU DV
&RQWUDFWRU VKDOO LGHQWL\ DOO UHYLVLRQV PDGH WR WKH
WUDQVPLWWD RU RQ WKH VKRS GUDZLQJV E\ XVH RI UHYLVLRQ
UHVXEPLWWD OV VKDOO FOHDUO\ UHVSRRG WR HDFK FRPPHQW
VXEPLVLRQ \$GGLWLRQDOO\ WKH &RQWUDFWRU VKDOO GLUHFW
RWKHU WKDQ WKH FRUHFHWRQV UHTXHVWHG E\ WKH (QJLQH HU
) 3DUWLDO VXEPLWWD OV PD\ QRW EH UHYLHZHG 7KH (QJLQH HU
FRPSOHWHQHVV RI D VXEPLWWD 6XEPLWWD OV QRW FRPSOHWH
ZLOO EH FRQVLGHUH G 5(-(&7(' XQWLO UHVXEPLWWHG 7KH (QJLQH HU
OLVW RU PDUN WKH VXEPLWWD OV GLUHFWLQJ WKH &RQWUDFWRU
* 5HSHWLWLYH 5HYLHZ
6KRS GUDZLQJV DQG RWKHU VXEPLWWD OV ZLOO EH UHYLHZH
H[SHQVH \$OO VXEVTXH QW UHYLHZV ZLOO EH SHUIRUPHG D
DQG DW WKH &RQWUDFWRU V H[SHQVH EDVHG RQ WKH (QJLQH HU
&RQWUDFWRU VKDOO UHLPXUVH WKH 2ZQH U IRU DOO VXFK
&LW\ RI)ORZHU\ %UDQFK 6XEPLWWD OV 3URFHGX
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV %LG 6HW

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(QJLQHUU 6XEPLWWDOV DUH UHTXLUHG XQWLO DSSURYHG
\$Q\ QHHG IRU PRUH WKDQ RQH UHVXEPLVVLRQ RU DQ\ RWK
UHYLHZ RI VXEPLWWDOV ZLOO QRW HQWLWOH &RQWUDFWRU V
+ ,I WKH &RQWUDFWRU FRQVLGHUV DQ\ FRUHHFWLRQ LQGLFDWH
FKDQJH WR WKH &RQWUDFW 'RFXPHQWV WKH &RQWUDFWRU VK
(QJLQHUU DW OHDVW ZRUNLQJ GD\ SULRU WR UHOHDVH IRU P
, :KHQ WKH VKRS GUDZLQJV KDYH EHHQ FRPSOHWHG WR WKH
&RQWUDFWRU VKDOO FDUU\ RXW WKH FRQVWUXFWLRQ LQ DFFRU
FKDQJHV WKHUHLQ H[FHSW XSRQ ZULWWHQ LQVWUXFWLRQV IURI

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\$ 'LVWULEXWH UHSURGXFWRQV RI DSSURYHG VKRS GUDZLQJV DO
VDPSONV ZKHU UHTXLUHG WR WKH MRE VLWH ILOH DQG HO
1XPEHU RI FRSLHV VKDOO EH DV GLUHFWHG E\ WKH (QJLQHUU EX

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\$ &RRUGLQDWLRQ RI 6XEPLWWDO 7LPHV 3UHSDUH DQG WUDQVP
RI SHUIRUPLQJ WKH UHODWHG ZRUN RU RWKHU DSSOLFDEOH DF
LQGLYLGXDO ZRUN RI RWKHU UHODWHG 6HFWLRQV VR WKDW
SURFHVVLRQ WLPHV LQFOXGLQJ GLVDSSURYDO DQG UHVXEPLWW
VXEPLWWDOV WHVWLQJ SXUFKDVLRQ IDEULFDWLRQ GHOLYHU
H[WHQVLRQ RI WLPX ZLOO EH DXWKRUL]HG EHFDXVH RI WKH &R
VXIILFLHQWO\ LQ DGYDQFH RI WKH :RUN

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% 5HODWHG 5HTXLUHPHQWV LQ RWKHU SDUWV RI WKH SURMHFW

,QVSHFWLRQ DQG WHVWLQJ UHTXLUHG E\ ODZV RUGLQDQFH
DSSURYDOV RI SXEOLF DXWKRULWLHV FRQGLWLRQV RI WKH F

& 5HVSQVLELOLW\ DQG SD\PHQW IRU WHVWLQJ VKDOO EH DV IR

&RQUDEFWU ZLOO SD\ IRU DOO FRQFUHWH WHVWV DV VSHF
WDQN OXPS VXP ELG DPRXQW &RQFUHWH WHVWLQJ ODERUDV
VXEMHFW WR WKH DSSURYDO RI WKH 2ZQHU 6DPSOHV ZLOO I
(QJLQHUU

&RQUDEFWU ZLOO SD\ IRU VRLOV FRPSDFWLRQ WHVW DQG
7HVWLQJ \$OORZDQFH %LG ,WHP H[FHSW ZKHUH WKH WHVW UH
VSHFLILHG UHTXLUHPHQWV &RQUDEFWU ZLOO SD\ DOO FRV
GHGXFWHG IURP WKH WHVWLQJ ODERUDWRU\ LQYRLFHV 7HVW
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% 0HHW EDVLF UHTXLUHPHQWV RI \$670 (6WDQGDUGV RI 5HF
,QVSHFWLRQ DQG 7HVWLQJ \$JHQFLHV IRU FRQFUHWH DQG VWHH

& \$XWKRULJHG WR RSHUDWH LQ WKH 6WDWH LQ ZKLFK WKH 3URM

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\$ 3URPSWO\ VXEPLW ZULWWHQ UHSRUW RI HDFK WHVW DQG LQVS
2ZQHU &RQUDEFWU DQG RQH FRS\ WR 5HFRUG 'RFXPHQWV IL

'DWH LVVXH

3URMHFW WLWOH DQG QXPEHU

7HVWLQJ ODERUDWRU\ QDPH DGGUHV DQG WHOHSKRQH QX

1DPH DQG VLJQDWXUH RI ODERUDWRU\ LQVSHFWRU

'DWH DQG WLPH RI VDPSOLQJ RU LQVSHFWLRQ

5HFRUG RI WHPSHUDWXUH DQG ZHDWKHU FRQGLWLRQV

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,GHQWLILFDWLRQ RI SURGXFW DQG VSHFLILFDWLRQ VHFWRU
/RFDWLRQ RI VDP SOH RU WHVW LQ WKH SURMHFW
7\SH RI LQVSHFWLRQ RU WHVW
5HVXOWV RI WHVWV DQG FRPSOLDQFH ZLWK FRQWUDFW GRF
,QWHUSUHWDLRQ RI WHVW DV UHTXLHG E\ WKH (QJLQHUU

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\$ /DERUDWRU\ LV QRW DXWKRULJHG WR

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\$ &RRSHUDWH ZLWK ODERUDWRU\ SHUVRQQHO SURYLGH DFFHVV

% 6HFXUH DQG GHOLYHU WR WKH ODERUDWRU\ DGHTXDWH TXDQ
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& 3URYLGH WR WKH ODERUDWRU\ WKH SUHOLPLQDU\ GHVLJQ PL[
RWKHU PDWHULDOV PL[HV ZKLFK UHTXLUH FRQWURO E\ WKH WH

')XUQLVK FRSLHV RI SURGXFWV WHVW UHSRUWV DV UHTXLHG

()XUQLVK LQFLGHQWDO ODERU DQG IDFLOLWLHV

7R SURYLGH DFFHVV WR ZRUN WR EH WHVWHG

7R REWDLQ DQG KDQGOH VDP SOHV DW WKH SURMHFW VLWH
WHVWHG

7R IDFLOLDWH LQVSHFWLRQV DQG WHVWV

)RU VWRUDJH DQG FXULQJ RI WHVW VDP SOHV

) 1RWLI\ ODERUDWRU\ VXIILFLHQWO\ LQ DGYPDQFH RI RSHUDWLRQ
SHUVRQQHO DQG VFKHGXOLQJ RI WHVWV

:KHQ WHVWV RU LQVSHFWLRQV FDQQRW EH SHUIRUPHG DIWH
ODERUDWRU\ SHUVRQQHO DQG WUDYHO H[SHQVHV LQFXUUHG

* (PSOR\ DQG SD\ IRU WKH VHUYLFHV RI D VHSDUDWH HTXDOO\ T
ODERUDWRU\ WR SHUIRUP DGGLWLRQDO LQVSHFWLRQV VDP SOL

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SECTION 01700
EXECUTION REQUIREMENTS

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\$ 7KLV 6HFWLRQ LQFOXGHV JHQHUDO SURFHGXUDO UHTXLUHPHQWV
LQFOXGLQJ EXW QRW OLPLWHG WR WKH IROORZLQJ
&RQVWUXFWLRQ OD\RXW
)LHOG HQJLQHULQJ DQG VXUYH\LQJ
*HQHUDO LQVWDOODWLRQ RI SURGXFWV
3URJUHVV FOHDQLQJ
6WDUWLQJ DQG DGMXVWLQJ
3URWHFWLRQ RI LQVWDOOHG FRQVWUXFWLRQ
&RUHFWLRQ RI WKH :RUN

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\$ &HUWLILFDWHV 6XEPLW FHUWLILFDWH VLJQH E\ &RQWUDFW
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\$ ([LVWLQJ &RQGLWLRQV 7KH H[LVWHQFH DQG ORFDWLRQ RI
FRQVWUXFWLRQ LQGLFDWHG DV H[LVWLQJ DUH QRW JXDUDQWHH
YHUL\ WKH H[LVWHQFH DQG ORFDWLRQ RI PHFKDQLFDO DQG HO
DIIHFWLQJ WKH :RUN
%HIRUH FRQVWUXFWLRQ YHUL\ WKH ORFDWLRQ DQG SRLQW
% ([LVWLQJ 8WLOLWLHV 7KH H[LVWHQFH DQG ORFDWLRQ RI XQG
LQGLFDWHG DV H[LVWLQJ DUH QRW JXDUDQWHHG %HIRUH EHJL
H[LVWHQFH DQG ORFDWLRQ RI XQGHUJURXQG 8WLOLWLHV DQG R
%HIRUH FRQVWUXFWLRQ YHUL\ WKH ORFDWLRQ DQG LQYH
VDQLWDU\ VHZHU VWRUP VHZHU DQG ZDWHU VHUYLFH SL
VHUYLFHV
)XUQLVK ORFDWLRQ GDWD IRU ZRUN UHODWHG WR 3URMHFW
VHUYLQJ 3URMHFW VLWH
& \$FFHSWDQFH RI &RQGLWLRQV ([DPLQH VXEVWUDWHV DUHD
\$SSOLFDWRU SUHVHQW ZKHUH LQGLFDWHG IRU FRPSOLDQFH ZL
DQG RWKHU FRQGLWLRQV DIIHFWLQJ SHUIRUPDQFH 5HFRUG REV
9HUL\ FRPSDWLELOLW\ ZLWK DQG VXLWDELOLW\ RI VXEVW
ILQLVKHV RU SULPHUV

&LW\ RI)ORZHU\ %UDQFK
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV

([HFXWLRQ 5HTXLUHPHQW
%LG 6HW

,QIUDWHF &RQVXOWDQWV ,QF

([DPLQH URXJKLQJ LQ IRU PHFKDQLFDO DQG HOHFWULFDO
FRQQHFWLRQV EHIRUH HTXLSPHQW DQG IL[WXUH LQVWDOODV
([DPLQH ZDOOV IORRUV DQG URRIV IRU VXLWDEOH FRQGLV
WR EH LQVWDOOHG

3URFHGG ZLWK LQVWDOODWLRQ RQO\ DIWHU XQVDWLVIDF
3URFHGHGLQJ ZLWK WKH :RUN LQGLFDWHV DFFHSWDQFH RI VX

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\$ ([LVWLQJ 8WLWLW\ ,QIRUPDWLRQ)XUQLVK LQIRUPDWLRQ WR C
RU UHORFDWH H[LVLWLQJ XWLWLW\ VWUXFWXUH\ XWLWLW\ SROH
ORFDWHG LQ RU DIIHFWHG E\ FRQVWUXFWLRQ &RRUGLQDWH ZL
%)LHOG 0HDXUHPHQWV 7DNH ILHOG PHDXUHPHQWV DV UHTX
PHDXUHPHQWV EHIRUH LQVWDOOLQJ HDFK SURGXFW :KHUH SR
RWKHU FRQVWUXFWLRQ YHUL\ GLPHQVLRQV RI RWKHU FRQV
IDEULFDWLRQ &RRUGLQDWH IDEULFDWLRQ VFKHGXOH ZLWK FR
:RUN
& 6SDFH 5HTXLUHPHQWV 9HUL\ VSDFH UHTXLUHPHQWV DQ
GLDJUDPPDWLFDOL\ RQ 'UDZLQJV
' 5HYLHZ RI &RQWUDFW 'RFXPHQWV DQG)LHOG &RQGLWLRQV ,P
FODULILFDWLRQ RI WKH &RQWUDFW 'RFXPHQWV VXEPLW D UHTX
GHWDLOHG GHVFULSWLRQ RI SUREOHP HQFRXQWHUHG WRJHWKH
&RQWUDFW 'RFXPHQWV

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\$ 9HULILFDWLRQ %HIRUH SURFHGHGLQJ WR OD\ RXW WKH :RU
'UDZLQJV LQ UHODWLRQ WR WKH SURSHU\ VXUYH\ DQG H[LVLV
GLVFRYHUHG QRWLI\ (QJLQHUU SURPSWO\
% *HQHUDO /D\ RXW WKH :RUN XVLQJ DFFHSWHG VXUYH\LQJ SUD
(VWDEOLVK EHQFKPDUNV DQG FRQWURO SRLQWV WR VHW
FRQVWUXFWLRQ DQG HOVHZKHUH DV QHHGHG WR ORFDWH HD
(VWDEOLVK GLPHQVLRQV ZLWKLQ WROHUDQFHV LQGLFDWH
UHTXLUHGLPHQVLRQV
,QIRUP LQVWDOOHUV RI OLQHV DQG OHYHOV WR ZLWK WKH
&KHFN WKH ORFDWLRQ OHYHO DQG SOXPE RI HYHU\ PDMRU
1RWLI\ (QJLQHUU ZKHQ GHYLDWLRQV IURP UHTXLUHGLQ
WROHUDQFHV
&ORVH VLWH VXUYH\ ZLWK DQ HUURU RI FORVXUH HTXDO V
E\ DXWKRULWLHV KDYLQJ MXULVGLFWLRQ
& 6LWH ,PSURYHPHQWV /RFDWH DQG OD\ RXW VLWH LPSURYHP
DQG WRSVRLO SODFHPHQW XWLWLW\ VORSHV DQG LQYHUW HOH
' %XLOGGLQJ /LQH V DQG /HYHOV /RFDWH DQG OD\ RXW FRQWURO
IRXQGDWLRQV FROXPQ JULGV DQG IORRU OHYHOV LQFOXGL
HOHFWULFDO ZRUN 7UDQVIHU VXUYH\ PDUNLQJV DQG HOHYDWL
/HYHO IRXQGDWLRQV DQG SLHUV IURP WZR RU PRUH ORFDWLRQV

&LW\ RI)ORZHU\ %UDQFK ([HFXWLRQ 5HTXLUHPH
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV %LG 6HW

,QIUDWHF &RQVXOWDQWV ,QF

(5HFRUG /RJ 0DLQWDLQ D ORJ RI OD\RXW FRQWURO ZRUN 5H
OHYHOV ,QFOXGH EHJLQQQLQJ DQG HQGLQJ GDWHV DQG WLPHV
DQG GXW\ RI HDFK VXUYH\ SDUW\ PHPEHU DQG W\SHV RI LQVWU
DYDLODEOH IRU UHIHUHQFH E\ (QJLQHUU

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\$ 5HIHUHQFH 3RLQWV /RFDWH H[LVWLQJ SHUPDQHFW EHQFKPDUN
SRLQWV EHIRUH EHJLQQQLQJ WKH :RUN 3UHVHUYH DQG SURWH
SRLQWV GXULQJ FRQVWUXFWLRQ RSHUDWLRQV

% %HQFKPDUNV (VWDEOLVK DQG PDLQWDLQ D SHUPDQHFW EHO
GDWD HVWDEOLVKHG E\ VXUYH\ FRQWURO SRLQWV &RPSO\ ZLV
DQG VLJH RI EHQFKPDUN

5HFRUG EHQFKPDUN ORFDWLRQV ZLWK KRUL]RQWDO DQG
'RFXPHQWV

& &HUWLILHG 6XUYH\ 2Q FRPSOHWLRQ RI IRXQGDLRQ ZDOOV
UHTXLULQJ ILHOG HQJLQHULQJ VHUYLFHV SUHSDUH D FHUWLIL
DQJOHV DQG HOHYDWLRQV RI FRQVWUXFWLRQ DQG VLWHZRUN

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\$ *HQHUDO /RFDWH WKH :RUN DQG FRPSRQHFWV RI WKH :RUN
HOHYDWLRQ DV LQGLFDWHG

ODNH YHUWLFDO ZRUN SOXPE DQG PDNH KRUL]RQWDO ZRUN
:KHUH VSDFH LV OLPLWHG LQVWDOO FRPSRQHFWV WR PD[L
DQG HDVH RI UHPRYDO IRU UHSODFHPHQW

&RQFHDO SLSHV GXFWV DQG ZLULQJ LQ ILQLVKHG DUHDV

% &RPSO\ ZLWK PDQXIDFWXUHU V ZULWWHQ LQVWUXFWLRQV DQG
DSSOLFDWLRQV LQGLFDWHG

& ,QVWDOO SURGXFWV DW WKH WLPH DQG XQGHU FRQGLWLRQV
0DLQWDLQ FRQGLWLRQV UHTXLUH IRU SURGXFW SHUIRUPDQFH

' &RQGXFV FRQVWUXFWLRQ RSHUDWLRQV VR QR SDUW RI WKH :R
ORDGLQJ LQ H[FHV RI WKDW H[SHFWHG GXULQJ QRUPDO FRQGLV

(7HPSODWHV 2EWDLQ DQG GLVWULEXWH WR WKH SDUWLHV LQ
IDFWRU\ SUHSDUH DQG ILHOG LQVWDOOHG &KHFN 6KRS 'UD
DGHTXDWH SURYLVLRLQV DUH PDGH IRU ORFDWLQJ DQG LQVWDO
UHTXLUHPHQWV

) \$QFKRUV DQG)DVWHQHUV 3URYLGH DQFKRUV DQG IDVWHQHUV
VHFXUHO\ LQ SODFH DFFXUDWHO\ ORFDWHG DQG DOLJQH ZLWK

ORXQWLQJ +HLJKWV :KHUH PRXQWLQJ KHLJKWV DUH QRW
KHLJKWV GLUHFWHG E\ (QJLQHUU

\$OORZ IRU EXLOGGLQJ PRYHPHQW LQFOXGLQJ WKHUPDO H[S

&RRUGLQDWH LQVWDOODWLRQ RI DQFKRUDJHV)XUQLVK
GLUHFWLRQV IRU LQVWDOOLQJ DQFKRUDJHV LQFOXGLQJ VOI
LWHPV ZLWK LQWHJUDO DQFKRUV WKDW DUH WR EH HPEHG
VXFK LWHPV WR 3URMHFW VLWH LQ WLPH IRU LQVWDOODWLR

&LW\ RI)ORZHU\ %UDQFK ([HFWLRQ 5HTXLUPH
(OHYDWHG :DWHU 7DQN ,PSURYHPHQWV %LG 6HW

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* -RLQWV 0DNH MRLQWV RI XQLIRUP ZLGWK :KHUH MRLQW ORF
DUUDQJH MRLQWV IRU WKH EHVW YLVXDO HIIHFV)LW H[SRVHG
+ +DJDUGRXV 0DWHULDOV 8VH SURGXFWV FOHDQHUV DQG LQV
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\$ *HQHUDO &OHDQ 3URMHFW VLWH DQG ZRUN DUHDV ZHHNO\
SURJUHVV FOHDQLQJ IRU MRLQW XVH DUHDV ZKHUH PRUH WKD
UHTXLUHPHQWV VWULFWO\ 'LVSRVH RI PDWHULDOV ODZIXOO\
% 6LWH 0DLQWDLQ 3URMHFW VLWH IUHH RI ZDVWH PDWHULDOV
& :RUN \$UHDV &OHDQ DUHDV ZKHUH ZRUN LV LQ SURJUHVV WR
SURSHU H[HFWRQ RI WKH :RUN
5HPRYH OLTXLG VSLOOV SURPSWO\
:KHUH GXVW ZRXOG LPSDLU SURSHU H[HFWRQ RI WKH :
HQWLUH ZRUN DUHD DV DSSURSULDWH

' ,QVWDOOHG :RUN .HHS LQVWDOOHG ZRUN FOHDQ &OHDQ L
LQVWUXFWLRQV RI PDQXIDFWXUHU RU IDEULFDWRU RI SURGXFW
VSHFLILFDOO\ UHFRPPHQGHG ,I VSHFLILF FOHDQLQJ PDWHULDO
PDWHULDOV WKDW DUH QRW KDJDUGRXV WR KHDOWK RU SURS
VXUIDFHV

(&RQFHDOHG 6SDFHV 5HPRYH GHEULV IURP FRQFHDOHG VSDFHV
) ([SRVHG 6XUIDFHV LQ)LQLVKHG \$UHDV &OHDQ H[SRVHG VXU
HQVXUH IUHHGRP IURP GDPDJH DQG GHWHULRUDWLRQ DW WLPH

* :DVWH 'LVSRVDO %XU\LQJ RU EXUQLQJ ZDVWH PDWHULDOV R
ZDVWH PDWHULDOV GRZQ VHZHUV RU LQWR ZDWHUZD\ ZLOO QR

+ 'XULQJ KDQGOLQJ DQG LQVWDOODWLRQ FOHDQ DQG SURWHF
PDWHULDOV DOUHDG\ LQ SODFH \$SSO\ SURWHFWLYH FRYHULQJ
GDPDJH RU GHWHULRUDWLRQ DW 6XEVWDQWLDO &RPSOHWLRQ

, &OHDQ DQG SURYLGH PDLQWHQDQFH RQ FRPSOHWHG FRQVWUX
WKH UHPDLQGHU RI WKH FRQVWUXFWLRQ SHULRG \$GMXVW DQG
RSHUDELOLW\ ZLWKRXW GDPDJLQJ HIIHFV

- /LPLWLQJ ([SRVXUH 6XSHU\LVH FRQVWUXFWLRQ RSHUDWL
FRQVWUXFWLRQ FRPSOHWHG RU LQ SURJUHVV LV VXEMHFW
RWKHUZLVH GHOHWHULRXV H[SRVXUH GXULQJ WKH FRQVWUXFWL

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\$ 6WDUW HTXLSPHQW DQG RSHUDWLQJ FRPSRQHQWV WR FRQ
PDOIXQFWLRQLQJ XQLWV UHSODFH ZLWK QHZ XQLWV DQG UHWH

% \$GMXVW RSHUDWLQJ FRPSRQHQWV IRU SURSHU RSHUDWLRQ ZL
RSHUDWLRQ

& 7HVW HDFK SLHFH RI HTXLSPHQW WR YHUL\ SURSHU RSHUDWL
5HSODFH GDPDJHG DQG PDOIXQFWLRQLQJ FRQWUROV DQG HTXLS

&LW\ RI)ORZHU\ %UDQFK
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LQVSHFW ILHOG DVVHPEOHG FRPSRQHQWV DQG HTXLSPHQW LQ
UHTXLUHPHQWV LQ 'LYLVLRQ

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\$ 3URYLGH ILQDO SURWHFWLRQ DQG PDLQWDLQ FRQGLWLRQV WK
GHHULRUDWLRQ DW WLP RI 6XEVDQWLDQ &RPSOHWLRQ

% &RPSO\ ZLWK PDQXIDFWXUHU V ZULWWHQ LQVWUXFWLRQV IRU

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\$ 5HSDLU RU UHPRYH DQG UHSODFH GHIHFWLYH FRQVWUXFWLRQ
ILQLVKHV

5HSDLULQJ LQFOXGHV UHSODFLQJ GHIHFWLYH SDUWV UHIL
ZLWK PDWFKLQJ PDWHULDOV DQG SURSHUO\ DGMXVWLQJ RS

% 5HVWRUH SHUPDQHQW IDFLOLWLHV XVHG GXULQJ FRQVWUXFWLRQ

& 5HPRYH DQG UHSODFH GDPDJHG VXUIDFHV WKDW DUH H[SRVHG
ZLWKRXW YLVLEOH HYLGHQFH RI UHSDLU

' 5HSDLU FRPSRQHQWV WKDW GR QRW RSHUDWH SURSHUO\ 5HPRYH
WKDW FDQQRW EH UHSDLUH

(5HPRYH DQG UHSODFH FKLSSHG VFUDWFKHG DQG EURNHQ JOD

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SECTION 01770 CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. Related Sections include the following:
 - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
 - 2. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Divisions 2 through 16 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.2 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 5. Prepare and submit Project Record Documents, operation and maintenance manuals, and final Completion construction photographs.
 - 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 8. Complete startup testing of systems.
 - 9. Submit test/adjust/balance records.
 - 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 11. Advise Owner of changeover in heat and other utilities.

12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 13. Complete final cleaning requirements, including touchup painting.
 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.3 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 2. Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit two copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1.5 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 14 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - g. Sweep concrete floors broom clean in unoccupied spaces.
 - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - j. Remove labels that are not permanent.

- k. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - l. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - m. Replace parts subject to unusual operating conditions.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - p. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - q. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - r. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01770

**SECTION 02010
SUBSURFACE CONDITIONS**

PART 1 - GENERAL

1.01 DESCRIPTION

A. The following soils investigation report has been prepared for this site:

1. Report Title: **Report of Subsurface Exploration and Geotechnical Engineering Evaluation Proposed 250,000 Gallon Water Storage Tank, 5624 Gainesville Street, Flowery Branch, Georgia, Geo-Hydro Project Number 181239.20**

Report Prepared By: **Geo – Hydro Engineers, Inc.**

Report Date: **January 3, 2019**

A copy of the report is enclosed with this section.

B. Use of Data

1. The report was obtained only for the Engineer's use in design and is available for bidders' information, but are not a warranty of subsurface conditions.
2. Bidders should visit the site and acquaint themselves with all existing conditions. Prior to bidding, bidders may make their own subsurface investigations to satisfy themselves as to site and subsurface conditions, but all such investigations shall be performed only under time schedules and arrangements approved in advance by the Engineer.

C. Quality Assurance

1. A Soils Engineer will be retained by the Owner to check performance of work in connection with excavating, trenching, filling, backfilling, and grading.
2. Readjust all work performed that does not meet technical or design requirements, but make no deviations from the Contract Documents without specific and written approval from the Owner's Representative.

END OF SECTION 02010

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Report of Subsurface Exploration
and Geotechnical Engineering Evaluation

New 250,000-Gallon Elevated Water Tank
5624 Gainesville Street
Flowery Branch, Georgia
Geo-Hydro Project Number 181239.20

*Prepared for Infratec Consultants, Inc.
January 3, 2019*



Mr. Keith Hendrix, P.E.
Infratec Consultants, Inc.
310 Saddle Hill Court
Roswell, Georgia 30075

January 3, 2019

Report of Subsurface Exploration
and Geotechnical Engineering Evaluation
New 250,000-Gallon Elevated Water Tank
5624 Gainesville Street
Flowery Branch, Georgia
Geo-Hydro Project Number 181239.20

Dear Mr. Hendrix:

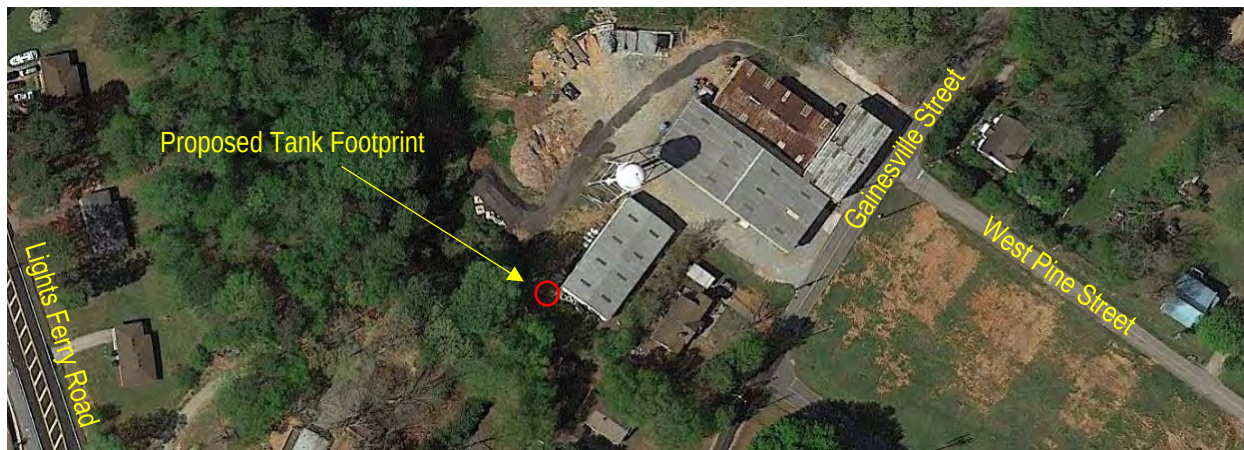
Geo-Hydro Engineers, Inc. has completed the authorized subsurface exploration for the above referenced project. The scope of services for this project was outlined in our proposal number 22618.2 dated November 20, 2018.

PROJECT INFORMATION

The project site is located at an existing municipal facility at 5624 Gainesville Street in Flowery Branch, Georgia. Figure 1 in the Appendix shows the approximate site location.

The planned water tank will have a capacity of 250,000 gallons and will be constructed adjoining the western corner of an existing building. The annotated aerial photograph below shows the planned tank location. We understand that the tank will have a central stand pipe and four isolated perimeter columns. You indicated that the foundations will bear about 6 feet below prevailing grade and the foundations have been preliminarily designed based on an allowable bearing pressure of 4,500 pounds per square foot. Based on a volume of 250,000 gallons and our experience with similar tanks, total column loads may approach 600 kips under gravity loading conditions.

At the time of our exploration, the area of the tank was grassed with some brush. The ground surface within the tank footprint slopes down away from Gainesville Street and contains about 5 feet of vertical relief across the tank footprint.



EXPLORATORY PROCEDURES

The subsurface exploration consisted of nine soil test borings performed at the approximate locations shown on Figure 2 in the Appendix. The test borings were located in the field by Geo-Hydro based on the location of the tank center as identified in the field by you. In general, the boring locations should be considered approximate.

Standard penetration testing, as provided for in ASTM D1586, was performed at select intervals in the soil test borings. Soil samples obtained from the drilling operation were examined and classified in general accordance with ASTM D2488 (Visual-Manual Procedure for Description of Soils). Soil classifications include the use of the Unified Soil Classification System described in ASTM D2487 (Classification of Soils for Engineering Purposes). The soil classifications also include our evaluation of the geologic origin of the soils. Evaluations of geologic origin are based on our experience and interpretation and may be subject to some degree of error.

Descriptions of the soils encountered in the test borings are provided in the test boring records included in the Appendix. Groundwater conditions, standard penetration resistances, and other pertinent information are also included.

REGIONAL GEOLOGY

The project site is located within the Brevard Fault Zone that separates the Northern Piedmont geologic province from the Southern Piedmont geologic province. In this report we will refer to the site as being within the Piedmont Region for the sake of simplicity. The Brevard Fault Zone is a narrow belt of deformed rocks, consisting primarily of mica schist, biotitic gneiss, and amphibolite in the project area. The area has undergone several episodes of deformation and metamorphism, the latest of which occurred some 200 to 300 million years ago. The Brevard Fault Zone is presently considered to be inactive.

Soils in this area have been formed by the in-place weathering of the underlying crystalline rock, which accounts for their classification as "residual" soils. Residual soils near the ground surface, which have experienced advanced weathering, frequently consist of red brown clayey silt (ML) or silty clay (CL). The thickness of this surficial clayey zone may range up to roughly 6 feet. For various reasons, such as erosion or local variation of mineralization, the upper clayey zone is not always present.

With increased depth, the soil becomes less weathered, coarser grained, and the structural character of the underlying parent rock becomes more evident. These residual soils are typically classified as sandy micaceous silt (ML) or silty micaceous sand (SM). With a further increase in depth, the soils eventually become quite hard and take on an increasing resemblance to the underlying parent rock. When these materials have a standard penetration resistance of 100 blows per foot or greater, they are referred to as partially weathered rock. The transition from soil to partially weathered rock is usually a gradual one, and may occur at a wide range of depths. Lenses or layers of partially weathered rock are not unusual in the soil profile.

Partially weathered rock represents the zone of transition between the soil and the unaltered metamorphic rocks from which the soils are derived. The subsurface profile is, in fact, a history of the weathering process which the crystalline rock has undergone. The degree of weathering is most advanced at the ground surface, where fine grained soil may be present. The weathering process is in its early stages immediately above the surface of relatively sound rock, where partially weathered rock may be found.

The thickness of the zone of partially weathered rock and the depth to the rock surface have both been found to vary considerably over relatively short distances. The depth to the rock surface may frequently range from the ground surface to 80 feet or more. The thickness of partially weathered rock, which overlies the rock surface, may vary from only a few inches to as much as 40 feet or more.

Stream valleys in the Piedmont Region may contain alluvial (water deposited) soils, depending on ground surface topography, stream flow characteristics, and other factors. By nature, alluvial soils can be highly variable depending upon the energy regime at the time of deposition. Coarse materials such as sand or gravel are deposited in higher energy environments, while fine grained materials such as silt and clay are deposited in low energy environments. Alluvial soils may also contain significant organic materials, and are frequently in a loose, saturated condition. In many cases, fine grained alluvial soils will be highly compressible and have relatively low shear strength.

Overall geologic conditions at the site have been modified by previous grading activities.

TEST BORING SUMMARY

Starting at the ground surface, all of the borings encountered approximately 3 to 10 inches of topsoil. Detailed measurements necessary for quantity estimation were not performed for this project. We recommend an arbitrary topsoil thickness of 12 inches for planning purposes.

Beneath the topsoil, all of the borings encountered residual soils typical of the Piedmont Region. The residual soils were classified as clayey silt, sandy silt, and silty sand with varying mica content. Standard penetration resistances in the residual soils ranged from 3 to 67 blows per foot.

All of the borings except B-1 and B-9 encountered partially weathered rock at depths ranging from about 12 to 27 feet. Partially weathered rock is locally defined as residual material having a standard penetration resistance greater than 100 blows per foot.

Boring B-9 encountered conditions causing auger refusal at a depth of 27 feet. Auger refusal is the condition that prevents advancement of the boring using conventional soil drilling techniques. The material causing auger refusal may consist of a boulder, a lens or layer of rock, the upper surface of relatively massive rock, or other hard material.

At the time of drilling, groundwater was not encountered in the borings. The borings were backfilled with soil cuttings upon completion. It should be noted that groundwater levels will fluctuate depending on seasonal variations of precipitation and other factors and may occur at different elevations in the future.

For more detailed descriptions of subsurface soil and groundwater conditions, please refer to the test boring record included in the Appendix.

EVALUATIONS AND RECOMMENDATIONS

The following recommendations are based on the information available on the proposed construction, the data obtained from the soil test borings, and our experience with soils and subsurface conditions similar to those encountered at this site. Because the test borings represent a small statistical sampling of subsurface conditions, it is possible that conditions may be encountered during construction that are substantially different from those indicated by the test borings. In these instances, adjustments to the design and construction may be necessary depending on actual conditions.

The following geotechnical characteristics of the site should be considered for planning and design:

- Neither partially weathered rock nor conditions causing auger refusal were encountered within 10 feet of the ground surface. Based on the results of the test borings, fill materials (if encountered during construction) and residual soils within anticipated excavation limits should be readily removable with conventional earth moving equipment.
- Based on a maximum column load of 600 kips and an allowable bearing pressure of 4,500 pounds per square foot, we estimate total settlement of the tank under gravity loading conditions to be about 1½ inches. We estimate differential settlement between any two foundations to be less than ½-inch. Due to the relatively heavy loads and high allowable bearing pressure, thorough inspection of foundation excavations will be critical to the performance of the project. All loose or soft soil encountered in foundation excavations should be removed and replaced with compacted graded aggregate base or lean concrete.
- Based on the results of the test borings and following the calculation procedure in the 2012 International Building Code (Chapter 20, ASCE 7-10), the *Site Class* for the site is *C*. The mapped and design spectral response accelerations are as follows: $S_s=0.211$, $S_1=0.095$, $S_{DS}=0.169$, $S_{D1}=0.108$.
- At the time of drilling, groundwater was not encountered in the test borings. Groundwater is not expected to be a concern for design or construction of the western water tank. Regardless of groundwater conditions, the contractor should be prepared to manage surface runoff during rain events.

The following sections provide recommendations regarding these issues and other geotechnical aspects of the project.

Existing Fill Materials

Existing fill materials were not encountered in the borings. However, areas of incidental fill may be present within the tank footprint, and soft, unstable surface materials related to previous agricultural activity may be encountered during construction. There are several important facts that should be considered regarding existing fill and cultivated materials and the limitations of subsurface exploration.

- The quality of existing fill materials can be highly variable, and test borings are often not able to detect all of the zones or layers of poor quality fill materials.
- Layers of poor quality fill materials that are less than about 2.5 to 5 feet thick may often remain undetected by soil test borings due to the discrete-interval sampling method used in this exploration.
- The interface between existing fill materials and the original ground surface may include a layer of organic material that was not properly stripped off during the original grading. Depending on its relationship to the bearing surface, an organic layer might adversely affect support of foundations and floor slabs. If such organic layers are encountered during construction, it may be necessary to “chase out” the organic layer by excavating the layer along with overlying soils.
- The construction budget should include funds for management of poor quality existing fill materials.
- Subsurface exploration is simply not capable of disclosing all conditions that may require remediation.

General Site Preparation

Vegetation, topsoil, existing foundations, demolition debris, and other deleterious materials should be completely removed from within the construction area. All existing utilities, if any, currently located within the proposed tank footprint must be excavated and removed. Within the tank foundation footprint, all excavations resulting from rerouting of underground utilities and removal of any other underground structures must be backfilled with GDOT-compliant graded aggregate base (GAB). Soil for incidental fill areas outside the foundation footprints should be placed and compacted in accordance with the Structural Fill section of this report. Site work should be performed only during dry weather conditions. Operation of heavy equipment on the site during wet conditions could result in excessive rutting and subgrade degradation.

During site preparation or foundation construction, burn pits or trash pits may be encountered. On sites located in or near developed areas, this is not an unusual occurrence. All too frequently such buried material occurs in isolated areas which are not detected by the soil test borings. Any buried debris or trash found during the construction operation should be thoroughly excavated and removed from the site.

Excavation Characteristics

Neither partially weathered rock nor conditions causing auger refusal were encountered within 10 feet of existing ground surface. Based on the results of the test borings, we expect fill materials and residual soils within anticipated excavation limits to be readily removable with conventional earth moving equipment.

For construction bidding and field verification purposes it is common to provide a verifiable definition of rock in the project specifications. The following are typical definitions of mass rock and trench rock:

- **Mass Rock:** Material which cannot be excavated with a single-tooth ripper drawn by a crawler tractor having a minimum draw bar pull rated at 56,000 pounds (Caterpillar D-8K or equivalent), and occupying an original volume of at least one cubic yard.
- **Trench Rock:** Material occupying an original volume of at least one-half cubic yard which cannot be excavated with a hydraulic excavator having a minimum flywheel power rating of 123 kW (165 hp); such as a Caterpillar 322C L, John Deere 230C LC, or a Komatsu PC220LC-7; equipped with a short tip radius bucket not wider than 42 inches.

The foregoing definitions are based on large equipment typically utilized for mass grading. Subsequent excavations for foundations and underground utilities are often performed with smaller equipment such as rubber-tired backhoe/loaders or even mini-excavators. Small equipment will encounter difficult excavation during mat foundation construction and utility installation, and contractors will often request additional payment for mobilizing larger equipment than that which was anticipated during preparation of their construction bid. The amount of additional compensation, if any, and the minimum equipment size necessary to qualify for any additional compensation should be defined before the start of construction.

Reuse of Excavated Materials (Ancillary Grading and Backfill)

Based on the results of the test borings, the residual soils at the project site appear suitable for reuse as structural fill material. Routine adjustment of moisture content will be necessary to allow proper placement and compaction.

It is important to establish as part of the construction contract whether soils having elevated moisture content and/or high plasticity will be considered suitable for reuse. We often find these issues to be a point of contention and a source of delays and change orders. From a technical standpoint, soils with moisture contents wet of optimum as determined by the standard Proctor test (ASTM D698) can be reused provided that the moisture is properly adjusted to within the workable range. Likewise, soils with liquid limits above 50 can also be reused provided they are blended with lower plasticity soils as needed to reduce their liquid limit. From a practical standpoint, wet soils can be very difficult to dry during periods of extended wet weather and low temperatures. Blending soils to reduce their plasticity also requires extra handling and effort. Such difficulties should be considered during planning and budgeting. A clear understanding by the general contractor and grading subcontractor regarding the reuse of excavated soils will be important to avoid delays and unexpected cost overruns.

Structural Fill

We provide the following recommendations for any soil fill and backfill required for the project.

Materials selected for use as structural fill should be free of organic debris, waste construction debris, and other deleterious materials. The material should not contain rocks having a diameter over 4 inches. It is our opinion that the following soils represented by their USCS group symbols will typically be suitable for use as structural fill and are usually found in abundance in the Piedmont: (SM), (ML), and (CL). The

following soil types are typically suitable but are not abundant in the Piedmont: (SW), (SP), (SC), (SP-SM), and (SP-SC). The following soil types are considered unsuitable: (MH), (CH), (OL), (OH), and (Pt).

Laboratory Proctor compaction tests and classification tests should be performed on representative samples obtained from the proposed borrow material to provide data necessary to determine acceptability and for quality control. The moisture content of suitable borrow soils should generally be no more than 3 percentage points below or above optimum at the time of compaction. Tighter moisture limits may be necessary with certain soils.

It is possible that highly micaceous soils could be utilized as structural fill material. The use of such materials will require very close attention to quality control of moisture content and density. Additionally, it is our experience that highly micaceous soils tend to rut under rubber-tired vehicle traffic. Continuous maintenance of areas subjected to construction traffic is typically required until construction is completed.

Suitable fill material should be placed in thin lifts. Lift thickness depends on the type of compaction equipment, but a maximum loose-lift thickness of 8 inches is generally recommended. The soil should be compacted by a self-propelled sheepfoot roller. Within small excavations such as in utility trenches, around manholes, above foundations, or behind retaining walls, we recommend the use of “wacker packers” or “Rammax” compactors to achieve the specified compaction. Loose lift thicknesses of 4 to 6 inches are recommended in small area fills.

We recommend that structural fill be compacted to at least 95 percent of the standard Proctor maximum dry density (ASTM D698). The upper 12 inches of subgrade soils should be compacted to at least 98 percent of the standard Proctor maximum dry density. The upper 12 inches of pavement subgrades should be compacted in accordance with Georgia DOT requirements to at least 100 percent of the standard Proctor maximum dry density (ASTM D698). Additionally, the maximum dry density of structural fill should be no less than 90 pcf. Geo-Hydro should perform density tests during fill placement.

Earth Slopes

Temporary construction slopes should be designed in strict compliance with OSHA regulations. The exploratory borings indicate that most soils at the site are Type B as defined in 29 CFR 1926 Subpart P. This dictates that temporary construction slopes be no steeper than 1H:1V for excavation in soil extending to depths of 20 feet or less. Temporary construction slopes should be closely observed on a daily basis by the contractor’s “competent person” for signs of mass movement: tension cracks near the crest, bulging at the toe of the slope, etc. The responsibility for excavation safety and stability of construction slopes should lie solely with the contractor.

We recommend that extreme caution be observed in trench excavations. Several cases of loss of life due to trench collapses in Georgia point out the lack of attention given to excavation safety on some projects. We recommend that applicable local and federal regulations regarding temporary slopes and shoring and bracing of trench excavations be closely followed.

Formal analysis of slope stability was beyond the scope of work for this project. Based on our experience, permanent cut or fill slopes should be no steeper than 2H:1V to maintain long term stability and to provide ease of maintenance. The crest or toe of cut or fill slopes should be no closer than 10 feet to any foundation. The crest or toe should be no closer than 5 feet to the edge of any pavements. Erosion protection of slopes during construction and during establishment of vegetation should be considered an essential part of construction.

Foundation Design

Based on the results of the test borings and assuming a maximum column load not exceeding 600 kips, it is our opinion that the new tank can be supported using conventional shallow foundations. An allowable bearing pressure of 4,500 psf is appropriate for design. Increasing the allowable bearing pressure by one-third is allowed for certain transient load combinations as outlined in the 2012 International Building Code.

We estimate that total settlement of the fully-loaded tank will be no more than 1½ inches with less than ½-inch of differential settlement between any two foundation supports. If the tank supplier determines that the estimated total or differential settlement cannot be accommodated by the proposed structure, please contact us to discuss options for reducing the total or differential settlement expected for the tank.

Foundation bearing surface evaluations should be performed in all footing excavations prior to placement of reinforcing steel. These evaluations should be performed by Geo-Hydro to confirm that the design allowable soil bearing pressure is available. Foundation bearing surface evaluations should be performed using a combination of visual observation, hand augering, and portable dynamic cone penetrometer testing (ASTM STP-399).

Remedial measures should be based on actual field conditions. However, in most cases we expect the use of the stone replacement technique to be the primary remedial measure. Stone replacement involves the removal of soft or compressible material, and replacement with well-compacted graded aggregate base (GAB) meeting Georgia Department of Transportation specifications for gradation. Stone replacement is generally performed to depths ranging from a few inches to as much as 2 times the footing width, depending on the actual conditions. For budgetary purposes, we suggest considering that as much as 25 percent of the foundation excavations will require overexcavation of soil overburden and replacement with well-compacted GAB or lean concrete (compressive strength $\geq 1,500$ psi) extending to a depth of 3 feet below bearing elevation. The actual quantity of stone/concrete replacement will be different and may exceed the provided estimate.

Lateral Load Resistance

Resistance to lateral loads is developed by the passive resistance of the soil against the foundations and by the friction force or sliding resistance between the concrete mat and the bearing material.

For analysis of foundation base sliding resistance, we recommend a coefficient of friction of 0.60 between mass concrete and partially weathered rock. This is an ultimate value and an adequate factor of safety

should be used in design. The force which resists sliding is calculated by multiplying the normal force on the base by the coefficient of friction. Full development of the frictional force could require deflection of the base of roughly 0.1 to 0.3 inches.

An allowable lateral earth pressure of 130 psf per foot of depth can be used for passive earth pressure resistance. It should be noted that full development of passive pressure will require deflection toward the soil mass on the order of ½-inch.

Seismic Design

Based on the results of the test borings and following the calculation procedure in the 2012 International Building Code (Chapter 20, ASCE 7-10), the *Site Class* for the site is *C*. The mapped and design spectral response accelerations are as follows: $S_S=0.211$, $S_I=0.095$, $S_{DS}=0.169$, $S_{D1}=0.108$.

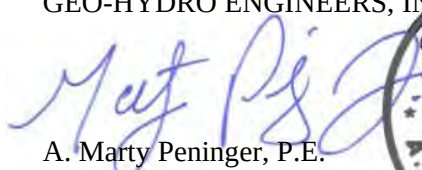
Based on the information obtained from the soil test borings, it is our opinion that the potential for liquefaction of the residual soils at the site due to earthquake activity is relatively low.

* * * * *

We appreciate the opportunity to work with you on this project and are prepared to provide any additional services you may require. If you have any questions concerning this report or any of our services, please call us.

Sincerely,

GEO-HYDRO ENGINEERS, INC.


A. Marty Peninger, P.E.
Senior Geotechnical Engineer
mpenigere@geohydro.com

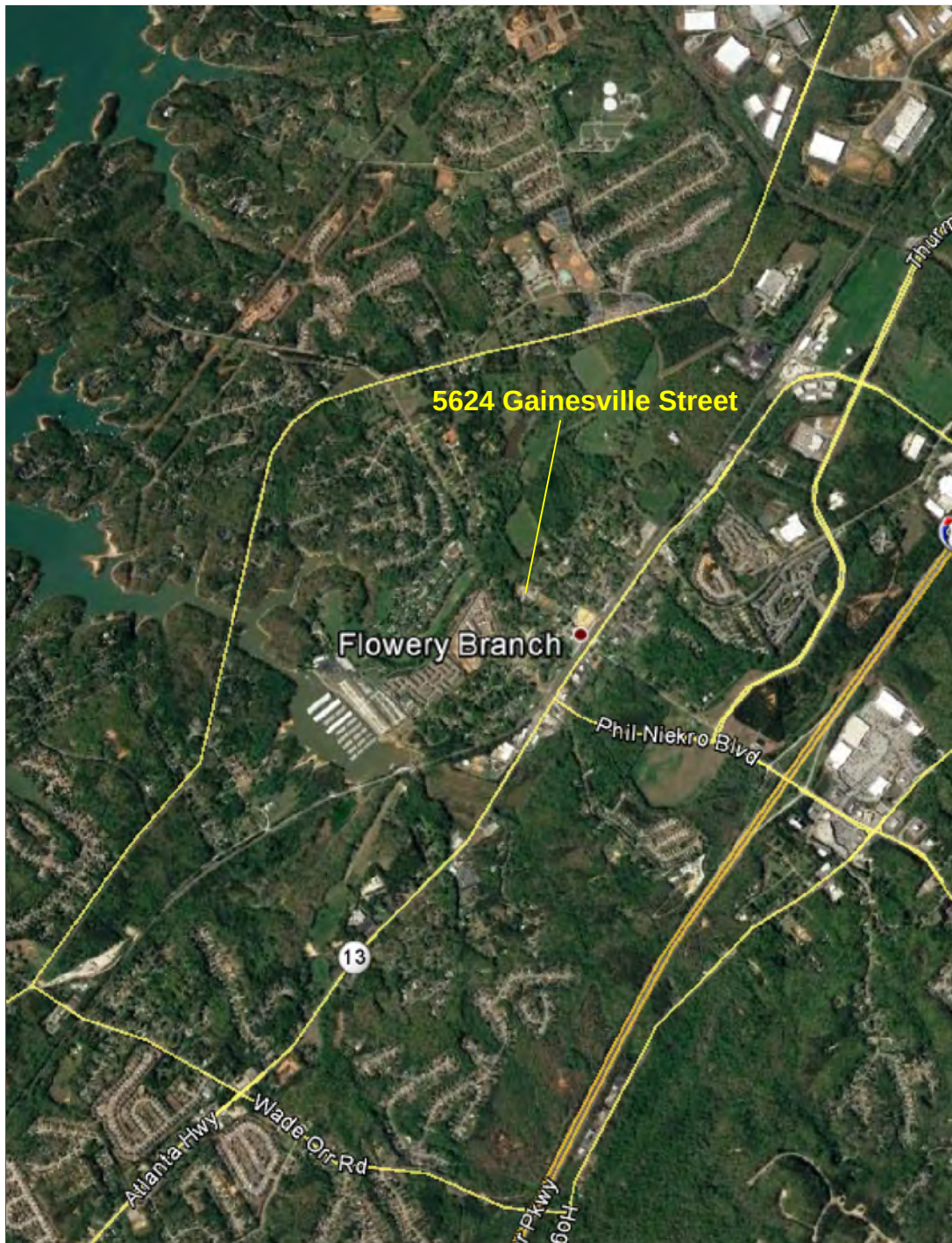



Luis E. Babler, P.E.
Chief Engineer
luis@geohydro.com



AMP/LEB/181239.20 - New 250,000-Gallon Elevated Water Tank - 5624 Gainesville Street - Geotechnical Report

APPENDIX



0 0.25 0.5 1 1.5
Approximate Scale, Miles

Figure 1: Site Location Plan

New 250,000-Gallon Elevated Water Tank
5624 Gainesville Street
Flowery Branch, Georgia
Geo-Hydro Project Number 181239.20



Approximate Scale: 1"=40'

LEGEND:  Soil Test Boring

Figure 2: Boring Location Plan

New 250,000-Gallon Elevated Water Tank
5624 Gainesville Street
Flowery Branch, Georgia
Geo-Hydro Project Number 181239.20

Symbols and Nomenclature

Symbols

	Thin-walled tube (TWT) sample recovered
	Thin-walled tube (TWT) sample not recovered
	Standard penetration resistance (ASTM D1586)
50/2"	Number of blows (50) to drive the split-spoon a number of inches (2)
65%	Percentage of rock core recovered
RQD	Rock quality designation - % of recovered core sample which is 4 or more inches long
GW	Groundwater
	Water level at least 24 hours after drilling
	Water level one hour or less after drilling
ALLUV	Alluvium
TOP	Topsoil
PM	Pavement Materials
CONC	Concrete
FILL	Fill Material
RES	Residual Soil
PWR	Partially Weathered Rock
SPT	Standard Penetration Testing

Penetration Resistance Results

	Number of Blows, N	Approximate Relative Density
Sands	0-4	very loose
	5-10	loose
	11-20	firm
	21-30	very firm
	31-50	dense
	Over 50	very dense
	Number of Blows, N	Approximate Consistency
Silts and Clays	0-1	very soft
	2-4	soft
	5-8	firm
	9-15	stiff
	16-30	very stiff
	31-50	hard
	Over 50	very hard

Drilling Procedures

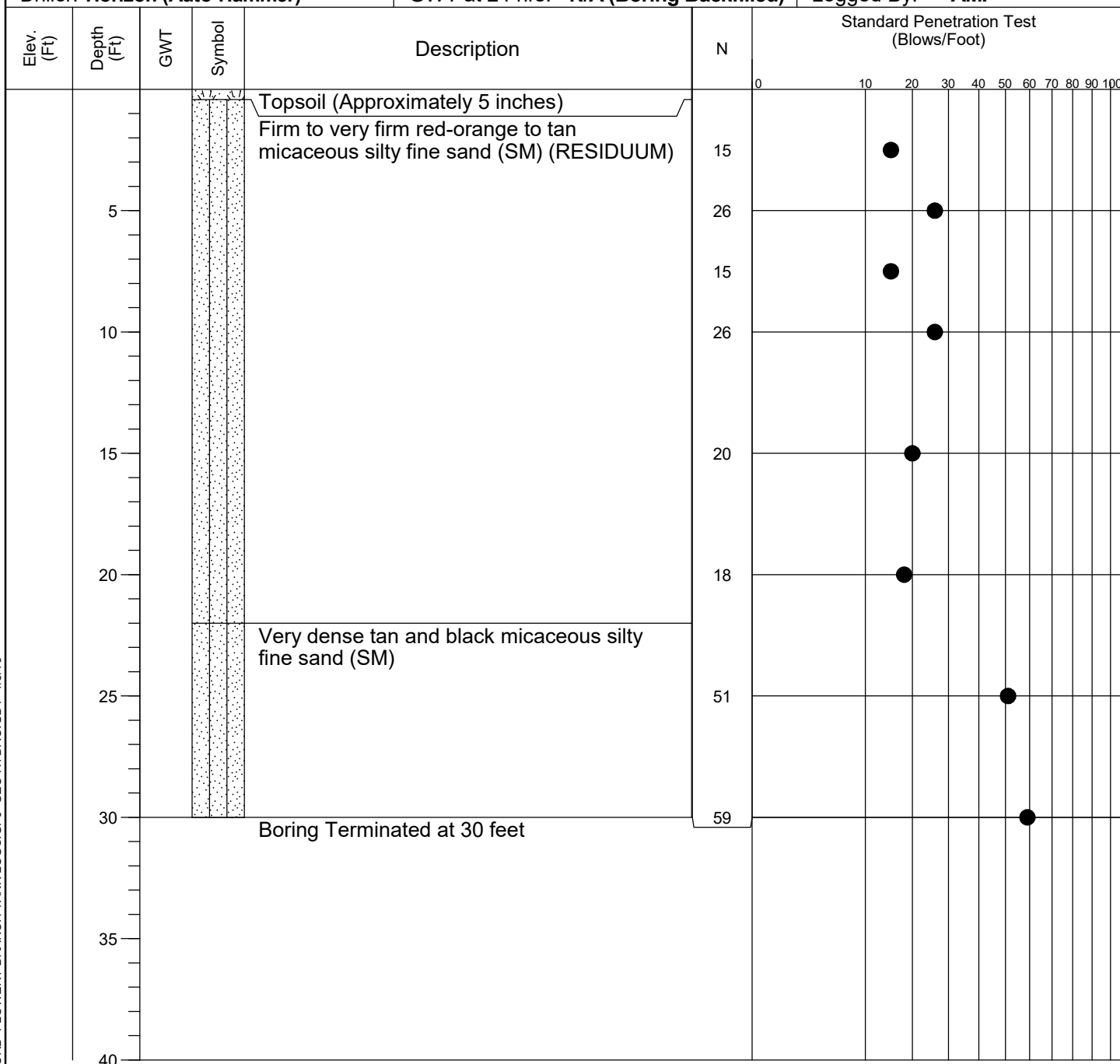
Soil sampling and standard penetration testing performed in accordance with ASTM D 1586. The standard penetration resistance is the number of blows of a 140-pound hammer falling 30 inches to drive a 2-inch O.D., 1.4-inch I.D. split-spoon sampler one foot. Rock coring is performed in accordance with ASTM D 2113. Thin-walled tube sampling is performed in accordance with ASTM D 1587.

B-1

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank		Project No: 181239.20
Location: 5624 Gainesville Street - Flowery Branch, Georgia		Date: 12/17/18
Method: HSA- ASTM D1586	GWT at Drilling: Not Encountered	G.S. Elev:
Driller: Horizon (Auto-Hammer)	GWT at 24 hrs: N/A (Boring Backfilled)	Logged By: AMP



Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-2

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank		Project No: 181239.20
Location: 5624 Gainesville Street - Flowery Branch, Georgia		Date: 12/17/18
Method: HSA- ASTM D1586	GWT at Drilling: Not Encountered	G.S. Elev:
Driller: Horizon (Auto-Hammer)	GWT at 24 hrs: N/A (Boring Backfilled)	Logged By: AMP

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)										
						0	10	20	30	40	50	60	70	80	90	100
				Topsoil (Approximately 10 inches)												
				Soft orange-brown fine sandy silt (ML) (RESIDUUM)	4		●									
	5			Loose to firm orange-brown micaceous silty fine sand (SM)	8		●									
	10			Very firm light brown slightly micaceous silty fine sand (SM)	28				●							
	15			Loose to firm brown and black slightly micaceous silty fine sand (SM)	15			●								
	20			Very firm gray-brown silty fine sand (SM)	8		●									
	25			Partially weathered rock sampled as brown silty fine sand (SM)	29				●							
	30			Boring Terminated at 30 feet	50/6"											●

Remarks:

B-3

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank		Project No: 181239.20
Location: 5624 Gainesville Street - Flowery Branch, Georgia		Date: 12/17/18
Method: HSA- ASTM D1586	GWT at Drilling: Not Encountered	G.S. Elev:
Driller: Horizon (Auto-Hammer)	GWT at 24 hrs: N/A (Boring Backfilled)	Logged By: AMP

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)										
						0	10	20	30	40	50	60	70	80	90	100
				Topsoil (Approximately 5 inches)												
				Very loose to loose orange-brown to black and brown silty fine sand (SM) (RESIDUUM)	3		●									
	5				8		●									
				Firm tan and brown micaceous silty fine sand (SM)	12			●								
	10			Loose to firm light brown to gray-brown silty fine sand (SM)	13			●								
					11			●								
	15				8			●								
	20				22				●							
	25			Very firm tan and gray micaceous silty fine sand (SM)												
				Partially weathered rock sampled as gray and brown micaceous silty fine sand (SM)												
	30			Boring Terminated at 30 feet	50/4"											●
	35															
	40															

Remarks:

B-4

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank		Project No: 181239.20
Location: 5624 Gainesville Street - Flowery Branch, Georgia		Date: 12/17/18
Method: HSA- ASTM D1586	GWT at Drilling: Not Encountered	G.S. Elev:
Driller: Horizon (Auto-Hammer)	GWT at 24 hrs: N/A (Boring Backfilled)	Logged By: AMP

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)										
						0	10	20	30	40	50	60	70	80	90	100
				Topsoil (Approximately 8 inches)												
				Firm orange-brown clayey silt (ML) (RESIDUUM)	7		●									
	5			Loose orange to black and orange micaceous silty fine sand (SM)	9		●									
					9		●									
	10				8		●									
				Very firm tan and brown micaceous silty fine sand (SM)	24			●								
	15															
				Partially weathered rock sampled as gray and tan silty fine sand (SM)	50/4"										●	
	20															
					50/6"										●	
	25															
					50/6"										●	
	30			Boring Terminated at 30 feet	50/6"										●	
	35															
	40															

Remarks:

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20					
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18					
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:					
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP					

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)										
						0	10	20	30	40	50	60	70	80	90	100
				Topsoil (Approximately 5 inches)												
				Soft orange-brown clayey silt (ML) (RESIDUUM)	4											
	5			Loose orange-brown silty fine sand (SM)	5											
					6											
	10				8											
				Very firm brown and tan micaceous silty fine sand (SM)	24											
	15															
				Partially weathered rock sampled as black and brown to tan micaceous silty fine sand (SM)	50/5"											
	20															
					50/5"											
	25															
					50/6"											
	30			Boring Terminated at 30 feet												
	35															
	40															

Remarks:

B-6**Test Boring Record**

Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)										
						0	10	20	30	40	50	60	70	80	90	100
				Topsoil (Approximately 3 inches)												
				Firm orange clayey silt (ML) (RESIDUUM)												
	5			Loose to firm orange to tan micaceous silty fine sand (SM)	5		●									
					8		●									
					12				●							
	10				12				●							
				Dense tan and gray micaceous silty fine sand (SM)												
	15				34					●						
	20				39					●						
				Partially weathered rock sampled as gray and tan silty fine sand (SM)												
	25				50/6"											●
				Dense dark brown silty fine sand (SM)												
	30			Boring Terminated at 30 feet	43						●					
	35															
	40															

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-7

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)
				Topsoil (Approximately 10 inches)		
				Firm orange clayey silt (ML) (RESIDUUM)		
	5			Loose orange-brown silty fine sand (SM)	6	
				Very firm tan and brown micaceous silty fine sand (SM)	9	
	10				24	
				Partially weathered rock sampled as tan and brown micaceous silty fine sand (SM)	26	
	15				50/6"	
				Very firm to dense gray-brown micaceous silty fine sand (SM)	24	
	20				25	
	25					
	30			Boring Terminated at 30 feet	40	
	35					
	40					

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-8

Test Boring Record



Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)
				Topsoil (Approximately 7 inches)		
				Dense dark brown to orange micaceous silty fine sand (SM) (RESIDUUM)	34	
				Loose orange-brown silty fine sand (SM)	8	
	5			Dense tan and gray micaceous silty fine sand (SM)	41	
				Firm to very firm tan-brown to gray silty fine sand (SM)	11	
	10					
					20	
	15					
					28	
	20					
				Very dense gray silty fine sand (SM)	52	
	25					
				Partially weathered rock - No sample recovered at 30 feet		
	30			Boring Terminated at 30 feet	50/0"	
	35					
	40					

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

B-9**Test Boring Record**

Project: New 250,000-Gallon Elevated Water Tank						Project No: 181239.20	
Location: 5624 Gainesville Street - Flowery Branch, Georgia						Date: 12/17/18	
Method: HSA- ASTM D1586			GWT at Drilling: Not Encountered			G.S. Elev:	
Driller: Horizon (Auto-Hammer)			GWT at 24 hrs: N/A (Boring Backfilled)			Logged By: AMP	

Elev. (Ft)	Depth (Ft)	GWT	Symbol	Description	N	Standard Penetration Test (Blows/Foot)
				Topsoil (Approximately 3 inches)		
				Loose orange silty fine sand (SM) (RESIDUUM)	6	
	5			Very firm to dense tan and brown micaceous silty fine sand (SM)	39	
					24	
	10			Firm orange and tan to dark gray silty fine sand (SM)	17	
					16	
	15					
				Very dense gray silty fine sand (SM)	53	
	20					
					67	
	25					
				Auger Refusal at 27 feet		
	30					
	35					
	40					

Remarks:

TEST BORING RECORD FLOWERY BRANCH TANK LOGS.GPJ GEO HYDRO.GDT 1/3/19

**SECTION 02010
SUBSURFACE CONDITIONS**

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**SECTION 02210
EROSION AND SEDIMENT CONTROL**

PART 1 – GENERAL

1.1 SUMMARY

- A. It is the intent of this Contract that the Contractor perform his work in accordance with all applicable requirements of the Erosion and Sedimentation Act of 1975. The Manual for Erosion and Sediment Control in Georgia (Manual) further defines practices and requirements which may apply to this work. The Contractor is responsible for maintaining all sediment and erosion control measures on the project site during construction, and he is responsible for any damage caused by failure to implement these requirements. In general, erosion control measures shall be implemented in any area where the work of the contractor creates a condition where erosion and siltation would otherwise occur.
- B. The Contractor shall obtain proper permits from the local government before land disturbing activities begin. Silt fence or other erosion control devices shall be installed prior to any land disturbing activities.
- C. All erosion control devices shall be installed as shown on the Drawings or as directed by the ENGINEER.

1.2 SUBMITTALS

- A. CONTRACTOR shall submit to the ENGINEER, in accordance with Division 1, copies of all material required to establish compliance with this Section.

1.3 EROSION CONTROL MEASURES

- A. Specific measures to be implemented will be based upon site conditions. The needed measures will be determined by the Contractor and subject to approval of the Engineer prior to installation. It is contemplated that the following erosion control measures will be implemented on the project:
 - 1. Temporary Silt Fence
 - 2. Rip Rap Outlet Structures
 - 3. Grassing, Temporary and/or permanent
 - 4. Check Dams
 - 5. Erosion Control Matting
 - 6. Construction Exits

PART 2 - PRODUCTS

2.1 TEMPORARY DIVERSION AND PERIMETER DIKES

- A. Install diversion and perimeter dikes to intercept and prevent storm water runoff from entering disturbed areas from any other upgradient area regardless of whether area is on-site or off-site. Dikes must divert runoff to a drainage ditch, sediment basin or temporary or permanent channel. Dikes shall remain in place until the disturbed area is permanently stabilized. Construct dikes of earth fill free from all perishable matter and refuse, such as scraps of forms, wire, brush, rocks larger than six (6) inches or any foreign materials. Ashes, large stones, muck or other soft materials shall not be used. Compact all dikes using construction equipment. Dikes shall be stabilized immediately after construction with temporary seeding in accordance.

2.2 TEMPORARY SEDIMENT BARRIERS (SILT FENCE)

- A. Material Specifications: Filter fabric must meet the requirements set forth in Section 171 - Temporary Silt Fence, of the State of Georgia Department of Transportation (DOT) Standard Specifications, Construction of Roads and Bridges.
- B. Installation: In general, silt fencing shall be installed on the downgradient side of all areas to be disturbed as well as the perimeter of the project site (ENGINEER may authorize an exception for a perimeter which is upgradient from all land disturbing activity). All posts used to install silt fence shall comply with the specifications in the Manual for Erosion and Sediment Control in Georgia. Posts must be placed at least 18 inches in the ground and cannot be more than 6 feet apart from one another. Fence fabric must be inserted below ground and fence fabric must be fastened to posts according to the specifications in the Manual.
- C. Maintenance: In accordance with Paragraph 3.1 below, all silt fencing shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. All silt fencing materials, including fabric, posts and fasteners must be replaced six months after installation. At the earlier of (1) every 14 calendar days, or (2) when sediment reaches a depth of one half the installed fence height, all soil, silt, sediment and other material captured by the silt fence should be removed and returned upgradient on the construction site. The silt fence shall maintained such that it minimizes sediment transport as designed.

2.3 TEMPORARY SEDIMENT BARRIERS (HAY BALES)

- A. Install bales of hay where shown on the Drawings or as directed by ENGINEER.
- B. Material Specifications: Hay bales shall be wire or nylon bound and of a rectangular shape.
- C. Installation: Place bales in a row with ends tightly abutting the adjacent bales. Corner abutment is not acceptable. Embed bales in the soil a minimum of 4 inches below grade. Build up backfilled soil a minimum of 4 inches above grade on the uphill side of the barrier and conform to grade on the downhill side of the barrier. Anchor each bale in place with 1-by 2-inch wood stakes or No. 3 reinforcing bars. The first stakes shall be driven toward the previously laid bale to force the bales together. Stakes shall be 24 inches long and shall reach a minimum of 6 inches into the ground.
- D. Maintenance: In accordance with Paragraph 3.1 below, all hay bales shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7)

calendar days and within 24 hours of a rainfall event that has precipitation of ½ inch or greater. Hay bales must be replaced one month after installation. At the earlier of (1) every 14 calendar days or (2) when sediment reaches a depth of one-half the original bale height, all soil, silt, sediment and other material captured by the hay bales should be removed and returned upgradient on the construction site. The hay bales shall maintained such that they minimize sediment transport as designed.

2.4 CONSTRUCTION EXIT

- A. Locate construction exits as shown on the Drawings or as directed by the ENGINEER.
- B. Material Specifications: A geotextile underliner, conforming to Section 881.06 - Plastic Filter Fabric of the State of Georgia DOT Standard Specifications, Construction of Roads and Bridges, shall be used in all instances to stabilize and support the pad aggregate. Aggregate size will conform to the National Stone Association's (NSA) R-2 classification 1½- inch to 3½- inch stone).
- C. Installation: Construction exits should be located at all points where traffic will be leaving the construction site to a public or private right of way, street, alley, or parking area. All construction exits must be fully installed prior to the commencement of timber salvage, clearing, grubbing, grading or construction operations.
- D. Maintenance: In accordance with Paragraph 3.1 below, all construction exits shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of rainfall event that has precipitation of 0.5 inches or greater. At the earlier of (1) thirty calendar days since construction exit was installed or last maintained, or (2) geotextile underliner is visible or if construction exit does not conform to specifications established in this Paragraph 2.05, construction exit pad shall be top dressed with NSA's R-2 (1½- inch to 3½-inch stone) such that underliner is no longer visible and exit pad conforms to specifications.

2.5 CHECK DAM

- A. Install check dams as shown on the Drawings or as directed by the ENGINEER.
- B. Installation: Install check dams in all ditches, channels or swales draining disturbed areas of one (1) acre or greater and which are not installed with permanent, non-erodible lining or a vegetative cover as specified in Paragraph 2.09
 - 1. Check Dam For Ditches must serve as a sediment filtering device in addition to reducing the velocity of storm water runoff. Construct check dam with graded size 5- to 10-inch stone. Check dam shall not substantially impound water. Hand placement may be required to ensure complete coverage of entire width of ditch.
- C. Maintenance: In accordance with Paragraph 3.01 below, all check dams shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. Dress dams with appropriate-sized stone or additional hay bales as is necessary to maintain check dams in accordance with these specifications. At the earlier of (1) every 14 calendar days, or (2) when sediment reaches a depth of one-half the original check dam height, all soil, silt, sediment and other material captured by the dam should be removed and returned upgradient on the construction site.

2.6 INLET SEDIMENT TRAP

- A. Install inlet sediment traps where shown on the Drawings, as directed by ENGINEER, and around all storm drain drop inlets that receive runoff from disturbed areas.
- B. Material Specifications: Filter fabric used in constructing inlet sediment traps shall conform to the specifications established in Paragraph 2.03. For gravel drop inlet filters, stone shall conform to NSA's R-3 specification (3- to 6-inch stone). Baffle box inlet filters shall be constructed of 2-inch x 4-inch or 4-inch x 4-inch posts and 2-inch x 4-inch boards.
- C. Installation: Install in accordance with Chapter Six of the Manual for Erosion and Sediment Control in Georgia. Excavation may only be used in combination with a filtering device such as stone or silt fence. All sediment traps should provide a minimum of 1.5 feet of sediment storage. Sediment traps must be self draining.
- D. Maintenance: In accordance with Paragraph 3.01, inlet sediment traps shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. Clean and repair traps such that traps meet the specifications of this Paragraph 2.07 and minimize sediment transport. Remove sediment as necessary to provide adequate storage volume for subsequent rains.

2.7 TEMPORARY SEDIMENT BASINS AND INLETS

- A. Install temporary sediment basins and inlets where shown on the Drawings or as directed by ENGINEER.
- B. Material Specifications: Concrete used in constructing sediment basin shall be ready mixed, conforming to ASTM C 94, Alternate 2. Compressive field strength shall be not less than 2,500 psi at 28 days. Maximum size of aggregate shall be 1-1/2 inch. Slump shall be between 2 and 4 inches. Field strength shall be assumed as equal to 85 percent of the strength of laboratory-cured cylinders. Forms used in constructing sediment basin shall have exposed surfaces of plywood; others shall be steel, matched boards, plywood, or other acceptable material. Form all vertical surfaces. Provide fillets on reentrant angles. Trench walls, large rock, or earth will not be acceptable form material. Reinforcing steel shall conform to ASTM A 615, Grade 40, deformed bars. At the option of the CONTRACTOR, approved precast units may be substituted for cast-in place units. Precast units shall conform to ASTM C 478. Submit details of proposed units to the ENGINEER for review. Concrete risers for extensions shall be a maximum of 6 inches high and of the same quality as the sections. Risers shall be reviewed by ENGINEER before installation. Mortar shall be standard premixed mortar conforming to ASTM C 387, Type S, or proportion 1 part portland cement to 2 parts clean, well-graded sand which will pass a 1/8-inch screen. Admixtures may be used not exceeding the following percentages of weight of cement: Hydrated lime, 10 percent; diatomaceous earth or other inert materials, 5 percent. Consistency of mortar shall be such that it will readily adhere to the concrete. Cast iron frames and gratings for catch basins and storm drain inlets shall be designed for AASHTO H-20 truck loadings and shall be bike-proof veticuline grates. Bearing surfaces shall be clean and shall provide uniform contact. Castings shall be tough, close-grained gray iron, sound, smooth, clean, free from blisters, blowholes, shrinkage, cold shuts, and all defects, and shall conform to ASTM A 48, Class 30.
- C. Construction: Excavation of basin and backfill of any adjoining pipe trenches shall be as

specified in Section 02300, Earthwork. Construct forms to the dimensions and elevations required. Forms shall be tight and well braced. Chamfer corners of forms. Prior to placing the concrete, remove all water and debris from the forms. Moisten forms just prior to placing the concrete. Handle concrete from the transporting vehicle to the forms in a continuous manner as rapidly as practical without segregation or loss of ingredients. Immediately after placing, compact concrete with a mechanical vibrator. Limit the duration of vibration to the time necessary to produce satisfactory consolidation without causing segregation. Screed the top surface of exposed slabs and walls. When the initial water has been absorbed, float the surfaces with a wood float and lightly trowel with a steel trowel to a smooth finish free from marks or irregularities. Finish exposed edges with a steel edging tool. Remove forms and patch any defects in the concrete with mortar mixed in the same proportions as the original concrete mix. Cure concrete by preventing the loss of moisture for a period of 7 days. Accomplish with a membrane-forming curing compound. Apply the curing compound immediately after removal of forms or finishing of the slabs. Protect concrete from damage during the 7-day curing period. If precast unit is used and material in bottom of trench is unsuitable for supporting unit, excavate and backfill to required grade with 3-inch minus, clean, pit-run material. Set units to grade at locations shown. Set frames and grates at elevations indicated on Drawings. Frames may be cast in, or shall be set in mortar.

- D. Maintenance: In accordance with Paragraph 3.01, temporary sediment basins and inlets shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. Clean and repair basins and inlets such that they meet the specifications of this Paragraph 2.08 and minimize sediment transport. Remove sediment as necessary to provide adequate storage volume for subsequent rains.

2.8 TEMPORARY SOIL EROSION STABILIZATION (VEGETATIVE)

- A. This section covers work necessary for temporary stabilization of soil to prevent erosion following clearing, grubbing, grading or other construction activities in the areas identified in the Contract Documents or as directed by the ENGINEER, except wetlands. The right is reserved to modify the use, location, and quantities of the areas requiring stabilization as the ENGINEER considers being in the best interest of the Owner. During construction, the ENGINEER will designate the extent of stabilization used in each location throughout the project.
- B. General Criteria: The stabilization measures specified herein shall be initiated on all disturbed areas including dikes and ditches within 24 hours of completion to minimize erosion and soil transport, provided however, that stabilization measures specified herein do not have to be initiated in the event that construction activities will resume on that portion of the site within fourteen (14) days from the date activities temporarily ceased. For cleared areas which may not receive permanent vegetative or other stabilization measure for six (6) months or less AND a suitable growing season is not available for seedings to establish an erosion retardant cover, mulch may be applied according to the specifications below.
- C. Material Specifications: Seed shall be clean, delivered in original unopened packages and bearing an analysis of the contents. Guaranteed 95 percent pure with minimum germination rate of 85 percent. Summer seed mix shall be 40 percent by weight Fawn Fescue, 30 percent by weight Perennial Ryegrass, 15 percent by weight Orchard Grass, and 15 percent by weight Dutch White Clover. Winter seed mix shall be 35 percent by weight Fawn Fescue, 30 percent by weight Perennial Ryegrass, 30 percent by weight Hairy Vetch, and 5 percent by weight Dutch White Clover. Fertilizer shall be used if directed by ENGINEER. Fertilizer shall be commercial, chemical type, uniform in composition, free-flowing, conforming to state and federal laws, and suitable for application with equipment designed for that purpose.

Fertilizer shall have a minimum percentage of plant food by weight for the following: Summer mix shall be 10 percent nitrogen, 10 percent phosphoric acid, and 6 percent potash; Winter mix shall be 16 percent nitrogen, 8 percent phosphoric acid, and zero percent potash. Straw mulch shall be threshed straw of oats, wheat, or rye, free from obnoxious weed seeds or obnoxious weeds, or shall be clean hay. Average stalk length shall be 6 inches. Wood waste, asphaltic emulsion, or erosion control matting such as jute, excelsior, are also appropriate for temporary stabilization. Asphaltic emulsion shall be CSS-1 as manufactured by Chevron Asphalt Company.

1. CONTRACTOR shall submit to ENGINEER certificates of inspection of seed by state or federal authorities and copies of delivery invoices or other documentation of quantities of mulch and fertilizer.
 2. The CONTRACTOR shall give at least 3 days notice to the ENGINEER of the time and place of starting the following operations:
 - a. Delivery of materials
 - b. Planting of grass
 3. The CONTRACTOR shall keep the ENGINEER advised of his schedule of operations.
- D. Application: Planting and seeding shall be performed in accordance with the following schedule:
1. Summer Seeding: No earlier than April 1 and no later than October 15.
 2. Winter Seeding: October 16 until weather conditions prohibit further construction operations as determined by the ENGINEER.
 3. Soil Preparation: Prior to seeding operations, and after surface has been shaped, graded, and compacted, scarify surface to a minimum depth of 1 inch.
 4. Seeding: All seedbeds shall be a minimum depth of 1 inch. Seedbeds shall be reviewed by the ENGINEER prior to seeding. After soil has been scarified, apply required seed mix, as specified in this section, uniformly with a cyclone seeder, drill, cultipacker seeder, or hydroseeder. When hydroseeding is the selected method of seeding, prepare and apply slurry at the rate and proportion specified below:
 - a. Seed Mix 100 lbs/acre
 - b. Fertilizer 650 lbs/acre
 - c. Water as necessary
 5. The required fertilizer mix shall be uniformly applied at the time of seeding.
 - a. Upon completion of the seeding operations, apply straw mulch to a reasonably uniform thickness of 1-1/2 inches to 2-1/2 inches in depth. Mulch shall be loose enough to permit penetration of sunlight and air circulation, but dense enough to shade ground, reduce evaporation rate, and prevent or materially reduce erosion of underlying soil. Retain straw in place by applying asphaltic emulsion at a rate of 100 gallons per acre or mechanically tack the mulch into the soil to approximately 3 inches. Equipment used for tacking shall be specially designed for this use.
- E. Application of Mulch Only: In accordance with Paragraph 2.8 A for areas to receive mulch only, apply at the following rates, to the following depths and according to the following specifications:
1. Dry Straw or Hay: Spread at a rate of two and one-half (2 1/2) tons per acre. Apply to a depth of six (6) to ten (10) inches. Apply uniformly and anchor as necessary.

2. Wood Waste: Spread at a rate of six (6) to nine (9) tons per acre. Apply to a depth of two to three inches. Apply wood waste only on slopes that are 3:1 or flatter. Anchoring is not necessary.
 3. Jute Matting or Excelsior Netting: Apply in accordance with manufacturer's recommendations.
 4. Asphaltic Emulsion: Apply at a rate of 1200 gallons per acre. Apply uniformly.
- F. Maintenance: In accordance with Paragraph 3.1, stabilized areas shall be inspected and maintenance performed, if needed, within 24 hours of inspection once every seven (7) calendar days and within 24 hours of a rainfall event that has precipitation of 0.5 inches or greater. Apply additional stabilization materials as needed.

PART 3 – EXECUTION

3.1 INSPECTIONS AND MAINTENANCE

- A. CONTRACTOR shall designate a Qualified Person to perform inspections. The following areas are to be inspected and maintenance performed, if needed.
1. Disturbed areas of the construction site that have not undergone final stabilization.
 2. Erosion and sediment control structures.
 3. All locations where vehicles enter or exit the site.
 4. Material storage and construction laydown areas that are exposed to precipitation and have not been finally stabilized.
- B. In areas that have been finally stabilized, inspections and, if necessary, maintenance by CONTRACTOR will occur at least once per month for duration of contract or project, whichever is longer.
- C. During inspections, the following will be observed and appropriate maintenance procedures taken:
1. The conformance to specifications and current condition of all erosion and sediment control structures.
 2. The effectiveness and operational success of all erosion and sediment control measures.
 3. The presence of sediments or other pollutants in stormwater runoff at all runoff discharge points.
 4. If reasonably accessible, the presence of sediments or other pollutants in receiving waters.
 5. Evidence of off-site sediment tracking at all locations where vehicles enter or exit the site.
- D. An inspection checklist is included at the end of this section. This checklist must be completed during each inspection, dated and signed by the Qualified Person conducting the inspection. Completed inspection checklists shall be kept on-site with the Contract Documents and submitted to the OWNER on a monthly basis. The CONTRACTOR will repair deficiencies within 24 hours of inspection.

3.2 REMOVAL OF TEMPORARY SEDIMENT CONTROL STRUCTURES

- A. At such time that temporary erosion and control structures are no longer required under this Section 02210, the CONTRACTOR shall notify the ENGINEER of its intent and schedule for the removal of the temporary structures, and obtain the ENGINEER's approval in writing prior to removal. Once CONTRACTOR has received such written approval from ENGINEER, CONTRACTOR shall remove as approved the temporary structures and all sediments accumulated at the removed structure shall be returned upgradient. In areas where temporary control structures are removed, the site shall be left in a condition that will restore original drainage.

END OF SECTION 02210

**SECTION 02230
SITE CLEARING**

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Protecting existing trees, shrubs, groundcovers, plants and grass to remain.
2. Removing existing trees, shrubs, groundcovers, plants and grass.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Temporary erosion and sedimentation control measures.

1.2 RELATED WORK

- A. Subsurface Conditions is included in Section 02010
- B. Earthwork is included in Section 02300
- C. Erosion Control is included in Section 02210
- D. Grassing and Mulching is included in Section 02486

1.3 DEFINITIONS

- A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other non-soil materials.
- B. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.4 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become CONTRACTOR's property and shall be removed from Project site.

1.5 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

- B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 2 Section "Earthwork."
 - 1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.
 - 2. Any property damage beyond the clearing limits caused by the Contractor is the responsibility of the Contractor, and he shall bare any and all expenses for restoration.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to the sediment and erosion control Drawings.
- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.
- D. The terms "Clearing" and "Grubbing" used in these specifications will be as defined in the Georgia Department of Transportation Specifications, 1993 Edition, Section 201.02, Paragraphs B and C.

3.3 TREE PROTECTION

- A. Erect and maintain temporary fencing around tree protection zones before starting site clearing. Remove fence when construction is complete.
 - 1. Do not store construction materials, debris, or excavated material within fenced area.

2. Do not permit vehicles, equipment, or foot traffic within fenced area.
3. Maintain fenced area free of weeds and trash.
- B. Do not excavate within tree protection zones, unless otherwise indicated.
- C. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.
 1. Cover exposed roots with burlap and water regularly.
 2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
 3. Coat cut faces of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other approved coating formulated for use on damaged plant tissues.
 4. Backfill with soil as soon as possible.
- D. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Architect.
 1. Employ an arborist, licensed in jurisdiction where Project is located, to submit details of proposed repairs and to repair damage to trees and shrubs.
 2. Replace trees that cannot be repaired and restored to full-growth status, as determined by the ENGINEER.

3.4 UTILITIES

- A. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.
 1. Arrange with utility companies to shut off indicated utilities.
- B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 1. Notify ENGINEER not less than two days in advance of proposed utility interruptions.
 2. Do not proceed with utility interruptions without ENGINEER's written permission.
- C. Excavate for and remove underground utilities indicated to be removed.

3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.
 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 2. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction.
 3. Grind stumps and remove roots, obstructions, and debris extending to a depth of 18 inches below exposed subgrade.
 4. Use only hand methods for grubbing within tree protection zone.
 5. Chip removed tree branches and stockpile in areas approved by the ENGINEER, to be used as mulch for erosion control.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
 1. Remove subsoil and nonsoil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 1. Limit height of topsoil stockpiles to 72 inches.
 2. Do not stockpile topsoil within tree protection zones.
 3. Dispose of excess topsoil as specified for waste material disposal.

3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
 2. Paint cut ends of steel reinforcement in concrete to remain to prevent corrosion.

3.8 DISPOSAL

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
 1. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 02230

SECTION 02271

RIP RAP

PART 1- GENERAL

1.1 SUMMARY

- A. The work of this section consists of furnishing and hand placing stone rip rap for embankment protection. All rip rap shall be installed over a geotextile fabric

1.2 SUBMITTALS

- B. As specified in Division 1, Manufacturer's installation instructions for geotextile fabric.

PART 2 - PRODUCTS

2.1 GEOTEXTILE FABRIC

- A. Fabric shall be permeable synthetic material, having the following properties:
 - 1. Grab tensile strength, shall be 200 pounds minimum, tested in accordance with ASTM D1682.
 - 2. Grab elongation shall be 15-50% as tested in accordance with ASTM D1682.
 - 3. Burst strength shall be 500 lbs. as tested in accordance with ASTM D751.

2.2 RIP RAP

- A. Rip rap shall be well-graded angular quarry stones, sound and hard, resistant to water and weathering. Stones shall be Georgia D.O.T. Standard Specification (latest edition), Section 805 Type 3 or Type 1 as called for on the plans. Where not specifically called out use Type 3.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Excavate foundation as shown and as specified in Section 603.03 of the Georgia D.O.T. Standard Specifications, (latest edition). Obtain Engineer's approval of foundation before placing geotextile fabric or rip rap. Repair or replace fabric that has been damaged due to stone placement. Re-lay fabric that becomes displaced during stone placement.

3.2 GEOTEXTILE FABRIC

- A. Place on smooth, uniform slope, loosely enough to conform to minor surface irregularities. Follow manufacturer's recommendations for making laps and for fastening and securing.

3.3 HANDLAID RIPRAP

- A. Place largest rocks at bottom of slope. Arrange by hand to interlock and form a substantial bond. Rip rap shall be reasonably uniform and free from bulges, humps, or cavities. Use spalls to fill voids.

END OF SECTION 02271

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**SECTION 02300
EARTHWORK**

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Preparing subgrades for slabs-on-grade, walks, pavements and lawns.
 - 2. Excavating and backfilling for buildings and structures.
 - 3. Drainage course for slabs-on-grade.
 - 4. Subbase course for concrete slabs.
 - 5. Subbase and base course for asphalt paving.
 - 6. Excavating and backfilling for utility trenches.

1.2 DEFINITIONS

- A. Backfill: Soil material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Course placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water. Unless specifically called out for otherwise, provide 12" of stone under all slabs.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions changes in the Work.
 - 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
 - 3. Rock Excavation: Excavation of rock substratum shall be defined as material occupying an original volume of at least one-half cubic yard which cannot be excavated with a hydraulic excavator having a minimum flywheel power rating of 165 HP; such as a Caterpillar 322C L, John Deere 230C LC, or a Komatsu PC220LC-7; equipped with a short tip radius bucket not wider than 42 inches.
- G. Fill: Soil materials used to raise existing grades.

- H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- I. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
- K. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.3 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Engineer and then only after arranging to provide temporary utility services according to requirements indicated.
- B. The accuracy of information contained in the plans and specifications as to underground structures foundation conditions, character of soil, position and quantity of ground and subsoil water, is not guaranteed by Owner.
- C. Where blasting with explosives may be required for rock excavation, Contractor is responsible for acquiring any required permits and providing seismic monitoring. No additional cost to the owner shall result from this responsibility.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM; AASHTO M 145 Soil Classification Groups A-1, A-2-4, A-2-5, and A-3; or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487; A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 2 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 2 Section "Site Clearing," during earthwork operations.

3.2 EXCAVATION

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 3 inches. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.

3.4 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.5 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
 - 1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - 1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material, 4 inches deeper elsewhere, to allow for bedding course.

3.6 SHEETING AND BRACING

- A. Furnish, install, and maintain such sheeting and bracing as required by Federal, State and Local safety requirements to support the sides of excavations, to prevent any movement which could diminish the width of the excavation necessary for proper construction, and to protect adjacent structures from undermining or other damage. Care shall be taken prevent voids outside of the sheeting, but if voids are formed, they shall be filled immediately and rammed. Where soil cannot be properly compacted to fill a void, lean concrete shall be used as backfill.
- B. Construct the sheeting outside the neat line of the foundation, unless otherwise indicated, to the extent deemed desirable for the method of operation.

3.7 SUBGRADE INSPECTION

- A. Proof-roll subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

3.8 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Engineer.
 - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Engineer.

3.9 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.10 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Backfill trenches excavated under footings and slabs with concrete to elevation of bottom of footings or slabs. Concrete is specified in Division 3 Section "Cast-in-Place Concrete."
- D. Place and compact initial backfill, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.
 - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- E. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- F. Install warning tape directly above PVC utilities, 12 inches below finished grade.

3.11 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill as shown on the Drawings or specified herein.
 - 4. Under building slabs, use engineered fill as shown on the Drawings or specified herein.
 - 5. Under footings and foundations, use engineered fill as shown on the Drawings or specified herein.

3.12 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.13 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557.
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 98 percent.
 - 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 - 3. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90 percent.
 - 4. For utility trenches, compact each layer of initial and final backfill soil material at 93 percent unless it is under a roadway or driveway and then use 95 percent.
 - 5. For backfill around structures, compact each layer of backfill at 95 percent.

3.14 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Lawn or Unpaved Areas: Plus or minus 0.1 feet.
 - 2. Walks: Plus or minus 0.1 feet.
 - 3. Pavements: Plus or minus .04 feet.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 0.04 feet when tested with a 10-foot straightedge.

3.15 SUBBASE AND BASE COURSES

- A. Place subbase and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase and base course under pavements and walks as follows:
 - 1. Shape subbase and base course to required crown elevations and cross-slope grades.
 - 2. Compact subbase and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 98 percent of maximum dry unit weight according to ASTM D 1557.

3.16 DRAINAGE COURSE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
 - 1. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.

2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.17 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Engineer.
- D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.18 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 02300

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SECTION 02400 CONSTRUCTION DEWATERING

PART 1 - GENERAL

- 1.1 The Contractor shall be responsible for controlling groundwater in a manner that will preserve the strength of the foundation soils, will not cause instability of the excavation slopes, and will not result in damage to existing structures. Prevent surface water runoff from entering or accumulating in excavations.
- 1.2 Where permeable soils are encountered at subgrade elevations the Contractor shall maintain the groundwater level a minimum of 3' below the prevailing excavation level.
- 1.3 The Contractor shall submit for the Engineer's review a construction dewatering plan. The plan shall indicate the method of dewatering to be used, the location of any wells or pumps, and where pumped groundwater is to be discharged. No excavation will be allowed without an approved dewatering plan. Submittal will be for information only and the dewatering plan shall remain the responsibility of the Contractor.
- 1.4 Excavation, sheeting, shoring, bracing, etc. that may be required for dewatering purposes during construction of the project shall be the responsibility of the Contractor and shall not result in additional cost to the Owner.

PART 2 - PRODUCT

- 2.1 Equipment used for dewatering is optional to the Contractor.
- 2.2 Mechanical equipment used shall be in good working order and suitable for use under the anticipated conditions.
- 2.3 Wells and well points if used shall be installed with suitable screens and filters so that continuous pumping of fines does not occur.

PART 3 – EXECUTION

3.1 GENERAL

- A. Control surface water and groundwater such that excavation to final grade is made in-the-dry, and bearing soils are maintained undisturbed. Prevent softening, or instability of the subgrade due to water seepage.
- B. Provide protection against floatation for all work.
- C. The impact of anticipated subsurface soil/water conditions will be considered when selecting methods of excavation and temporary dewatering systems. Where groundwater levels are above the proposed bottoms of excavations, a pumped dewatering system is expected for pre-drainage of the soils prior to excavation to final grade and for maintenance of the lowered groundwater level until construction has been completed to such an extent that the foundation, structure, pipe, conduit, or backfill will not be floated or otherwise damaged.

3.2 SURFACE WATER

- A. Control surface water runoff to prevent flow into excavations. Provide temporary measures such

as dikes, ditches and sumps.

3.3 EXCAVATION DEWATERING

- A. The Contractor shall maintain and operate his dewatering equipment until the permanent structure is in place.
- B. Dewatering shall at all times be conducted in such a manner as to preserve the natural undisturbed bearing capacity of the subgrade at the bottom of the excavation. If the subgrade becomes disturbed or becomes un-dewatered for any reason the unsuitable subgrade material shall be removed and replaced with concrete or compacted stone to restore the bearing capacity of the subgrade to its original undisturbed condition. No compensation for removal of unstable material below the subgrade shall be allowed if in the opinion of the Engineer, modified dewatering techniques would solve the problem and result in a suitable subgrade.
- C. Dewatering discharge shall be clean with an acceptable NTU (neophalometric turbidity unit) as allowable by current storm water monitoring guidelines before the water is discharged back into any stream or surface water. Sampling of the discharged water shall be conducted by approved storm water monitoring company or person for this determination.

END OF SECTION 02400

SECTION 02444 - CHAIN LINK FENCE AND GATES

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Provide and install non-climbable chain link fence and gates of the types and sizes and at the locations shown on the drawings.

1.2 SUBMITTALS

- A. Submit to the Engineer, in accordance with the Section 01340, copies of all materials required to establish compliance with this Section.

PART 2 - PRODUCTS

2.1 GENERAL

- A. All components shall be galvanically compatible. All fence posts, braces, fabric, gates, and accessories shall be vinyl coated, color black.

2.2 CHAIN LINK FABRIC

- A. Conform to FS RR-F-00191/1 Type A, Class I, two inch mesh, one piece fabric, full height. Wire diameter shall be 0.148 inch.

2.3 VINYL COATING

- A. PolyVinyl Chloride coated steel chain link fence fabric shall conform to ASTM F 668.
- B. Vinyl coating color shall be stabilized, and shall have a light fastness to withstand a minimum Weather-O-Meter exposure of at least 1500 hours without any deterioration when tested in accordance with ASTM D 1499.
- C. Specific gravity shall be between 1.26 and 1.30 in accordance with ASTM D 792.
- D. Hardness shall be A90 $\pm$ 5 in accordance with ASTM D 2240.
- E. Tensile strength shall be between 2600 and 3000 psi in accordance with ASTM D 412.
- F. Vinyl coating shall be exposure-resistant to dilute solutions of most common mineral acids, sea water, salts, and alkali.
- G. Vinyl coating shall be continuously bonded to the wire under 5000 psi pressure before the wire is woven into fabric.

2.4 GATES

- A. Conform to FS RR-F-00191/2 Type A single swing or double swing as shown. Frames shall be round zinc-coated steel assembled with corner fittings and 3/8 inch steel truss rods. Fabric shall be same as for fence. Hinges shall allow for swinging the gate open through a 180 degree arc. Latches for double gates shall be of the plunge bar type operable from either side of the gate with integral padlock clasp. Keepers shall be provided for double gates.

2.5 POSTS

A. Conform to FS RR-F-00191/3, Type 1, Class 1, diameters as follows:

1. Line post: 2 inches diameter
2. Corner post: 3 inches diameter
3. Gate post: 4 inches diameter.

2.6 TOP RAILS AND BRACES

A. Conform to FS RR-F-00191/3 Type II Class 1, with top rail and braces 1-5/8 inches in diameter.

2.7 BARBED WIRE SUPPORT ARMS

A. Conform to FS RR-F-00191/4 Type X.

2.8 BARBED WIRE

A. Shall be four point pattern, two strand No. 12-1/2 gauge Aluminumized steel after weaving with large barbs placed 3 inches apart.

2.9 CONCRETE

A. Class B, as described in Section 03000.

2.10 BOTTOM TENSION WIRE

A. The bottom tension wire shall be not less than no. 7 gage wire. Tie or clips shall be provided for attaching the wire to the fabric at intervals not exceeding 2 feet.

PART 3 - EXECUTION

3.1 INSPECTION:

- A. Stake out location of fence and gate prior to installation. Obtain approval of fencing and gate location from Engineer prior to any installation.
- B. Verify that final grading in fence location is completed without irregularities which would interfere with fence installation. Assure that maximum gap between fence fabric and ground will be no greater than 3 inches.

3.2 PREPARATION

- A. Measure and lay out complete fence line.
- B. Measure parallel to surface of ground.
- C. Locate and Mark position of posts.

- D. Locate line posts at equal distance spacing, not exceeding 10 foot centers.
- E. Locate corner posts at positions where fence changes direction more than 10 degrees.

3.3 INSTALLATION

A. Posts

- 1. Minimum post hole diameter three times outside post diameter.
- 2. Minimum post hole depth 3 in. below post bottom.
- 3. Place concrete in hole to depth of post bottom.
- 4. Set post plumb to 1/4 in. in 10 ft.
- 5. Fill hole with concrete to 2 in. above grade.
- 6. Crown surface of concrete to slope away from post.

B. Fence Fabrics

- 1. Stretch fabric tight between terminal post.
- 2. Position bottom of fabric approximately 1 in. to 2 in. above ground level at each post.
- 3. Join ends of fabric by weaving with single strand of fabric wire to form continuous mesh pattern with selvage twisted to match balance of fabric.
- 4. Attach fabric to line posts using wire ties or clips, spacing not to exceed 15 in. o.c.
- 5. Attach top edge of fabric to top rail using wire ties or clips, spacing not to exceed 24 in. o.c.
- 6. Attach bottom edge of fabric to bottom tension wire using wire ties or clips not to exceed 24 in. o.c.

C. Gates

- 1. Install gates plumb and level 1/4 in. in 10 ft.
- 2. Install ground-set items in concrete.
- 3. Adjust hardware to provide smooth operation.

D. Corners

- 1. Install corners with a radius similar to top of the pond, using a minimum of four post.

3.4 ADJUST AND CLEAN

- A. Adjust brace rails and tension rods for rigid installation.
- B. Tighten hardware, fasteners, and accessories.
- C. Remove excess and waste materials from project site.

END OF SECTION 02444

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**SECTION 02920
LAWNS AND GRASSES**

PART 1 – GENERAL

1.1 SUMMARY

This Section includes seeding and sodding for permanent grassing.

1.2 SUBMITTALS

- A. Submittal data shall comply with the provisions of Section 01330.
- B. Product Data: For each type of product indicated.
- C. Product certificates.
- D. Planting Schedule: Indicating anticipated planting dates.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Sod: Harvest, deliver, store, and handle sod according to requirements in TPI's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding."

1.4 AREAS TO BE GRASSED

- A. All graded or disturbed areas within the construction limits where natural vegetation has been removed except areas to be paved.
- B. All existing areas within the areas of construction on the site shall be re-grassed to meet the requirements herein.

PART 2 – PRODUCTS

2.1 SEED

- A. Seed Species: State-certified seed of grass species, as follows:

<u>Season</u>	<u>Kinds of Seed</u>	<u>Pounds per Acre</u>
Jan 1-May 15	Unhulled Common Bermuda	30
	Kentucky 31 Fescue	75
	Winter Rye Grass	25
May 16-Sept 1	Hulled Common Bermuda	30
	Kentucky 31 Fescue	75
Sept 2-Dec 31	Unhulled Common Bermuda	30
	Kentucky 31 Fescue	75

2.2 TURFGRASS SOD

- A. Turfgrass Sod: Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with TPI's "Specifications for Turfgrass Sod Materials" in its "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.
- B. Turfgrass Species: Tall Fescue, Centipede, or Bermuda.

2.3 FERTILIZER

- A. Commercial Fertilizer: Commercial grade fertilizer grade 5-10-15 at the rate of 1500# per acre.

2.4 LIME

- A. Agricultural lime shall meet the requirements of the Georgia Department of Transportation's Standard Specification Section 882.2, latest edition.

2.5 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew and seed free, straw of wheat, rye, oats, or barley.

PART 3 – EXECUTION

3.1 STAND OF GRASS REQUIRED

- A. It is the intent of this specification that the CONTRACTOR is obliged to deliver a satisfactory stand of perennial grass before final payment will be made. If it is necessary to repeat any or all of the work, including plowing, fertilizing, watering and seeding, the CONTRACTOR shall nevertheless repeat these operations as a part of this contract until a satisfactory stand is obtained.

3.2 LAWN PREPARATION

- A. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
 - 1. Apply fertilizer and lime directly to subgrade before loosening.
- B. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future.
- C. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- D. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

3.3 SEEDING

- A. Sow seed at the rate of listed above or shown on the plans.
- B. Rake seed lightly into top 1/8 inch of topsoil, roll lightly, and water with fine spray.
- C. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.
- D. Upon seeding, lime shall be uniformly distributed at a rate of 1 ton per acre over the seeding area with a mechanical spreader.

3.4 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
- C. Saturate sod with fine water spray within two hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.5 SATISFACTORY LAWNS

- A. Satisfactory Seeded Lawn: At end of maintenance period, grass areas will be considered acceptable when a viable stand of grass covers at least 98% of the total area with no bare spots exceeding one square foot, and the ground surface is fully stabilized against erosion.
- B. Satisfactory Sodded Lawn: At end of maintenance period, a healthy, well-rooted, even-colored, viable lawn has been established, free of weeds, open joints, bare areas, and surface irregularities.
- C. Reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

END OF SECTION 02920

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SECTION 03100 CONCRETE FORMWORK

PART 1-GENERAL

1.1 SUMMARY

- A. The work under this section of furnishing all labor, materials equipment and all other items necessary for the complete and approved installation of formwork required for concrete work including anchor bolt installation.

1.2 QUALITY ASSURANCE

- A. Materials and work shall conform to the requirements of standards, codes and recommended practices outlined in this section. In conflicts between industry standards, or required standards and this Specification or this Specification and the local code, the more stringent requirement shall govern.
- B. Source Quality Control. Materials and fabrication procedures are subject to inspection and tests at the source and in the field by the ENGINEER. Such inspection and tests will not relieve the CONTRACTOR of responsibility for providing materials and fabrication procedures in compliance with specified requirements. The CONTRACTOR shall promptly remove and replace materials or fabricated components which do not comply.

1.3 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referenced in the text by the basic designation only. All publications shall be the latest edition.
 - 1. American Concrete Institute (ACI):
 - 1. 117 – Standard Tolerances for Concrete Construction and Materials.
 - 2. 301 – Specifications for Structural Concrete for Buildings.
 - 3. 302.1 – Guide for Concrete Floor and Slab Construction.
 - 4. 318 – Building Code Requirements for Structural Concrete.
 - 5. 347 – Recommended Practice for Concrete Formwork.
 - 6. SP-4 – Formwork for Concrete.

1.4 SUBMITTALS

- A. Submit to the ENGINEER, in accordance with the Section 01330, copies of all materials required to establish compliance with this Section.
- B. All formwork shop Drawings and related computations shall be furnished the ENGINEER for record purposes only. Shop Drawings shall cover all formwork required. They shall show general arrangement of forms, sizes and grades of lumber, placement; construction and control joints and their method of forming; locations of inserts, tees, sleeves, and other

related items. Drawings or descriptions of shoring and re-shoring methods proposed for floor and roof slabs, spandrel beams, and other horizontal concrete members shall also be furnished.

C. Provide data on waterstops.

1.5 SEQUENCING/SCHEDULING

A. The CONTRACTOR shall schedule delivery and erection of formwork to coincide with reinforcement and concrete placement to ensure continuous work.

PART 2 - MATERIALS

2.1 FORMWORK

A. Formwork shall be designed for loads, lateral pressure and allowable stress in accordance with ACI 301, ACI 347 and ACI SP-4. Design, ENGINEERING and construction of the formwork shall be the responsibility of the CONTRACTOR.

B. Form Materials

1. Forms shall be of wood, plywood or steel and shall be as recommended in ACI 347 and ACI SP-4. The form materials shall be appropriate for the intended finishes.

C. Permanent Forms

1. Permanent forms for elevated slabs shall be metal deck forms.

D. Form Ties

1. Form ties shall be designed so that the ends or end fasteners can be removed without causing appreciable spalling at the faces of the concrete. After the ends or end fasteners of form ties have been removed, the embedded portion of the ties shall terminate not less than $\frac{3}{4}$ inch from the formed surfaces of concrete to be permanently exposed to view. Form ties in structures exposed to hydrostatic pressures (shall have waterstops that are an integral part of the form tie and the embedded portion of the ties shall terminate not less than 1-1/2 inches from the formed face). Gang form ties shall be filled from one end with a compressible plug a minimum of 1 1/2 inches from the edge of wall, and shall have a bentonite plug in the center of the wall and all voids filled with non-shrink grout.

E. Chamfer Strips

1. Unless noted otherwise on the Drawings all exposed corners of beams, columns, walls, slabs, etc. shall have $\frac{3}{4}$ inch chamfers including opening for doors, windows, and other similar openings.

F. Waterstops

1. Water stops shall be polyvinyl chloride, 6 inch wide, maximum possible lengths, dumbbell profile with center bubble, preformed corner sections, heat welded jointing. Bentonite waterstops may also be used with approval of the appropriate shop Drawings by the ENGINEER.

G. Accessories

1. Form accessories shall be of commercially manufactured types suitable for the formwork and the intended usage.

H. Anchor Bolts

1. Anchor bolts shall be ASTM A307 or A36 with cut threads.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with Drawings.
- B. All surfaces of forms and embedded materials shall be cleaned of any accumulated mortar or grout from previous concreting.
- C. All items which are to be embedded in concrete and which must be built into formwork shall be located and readied for installation prior to placement of any concrete. Coordinate all items with the various trades.

3.2 INSTALLATION

- A. Construction and erection of formwork shall be in accordance with ACI 347, ACI SP-4 and as specified herein.
- B. All formwork, supports, braces, shoring, etc. shall be of sufficient strength to properly support the concrete, the construction loads, and any superimposed loads and to maintain the work in perfect alignment until the formwork can be safely removed. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Chamfer strips shall be placed in the corners of forms and on the edges of formed joints to produce beveled edges on permanently exposed surfaces. To maintain the specified tolerances, the formwork shall be cambered to compensate for anticipated deflections in the formwork prior to hardening of the concrete. Positive means of adjustment (wedges or jacks) of shoes and struts shall be provided and all settlement shall be taken up during concrete placing operation. Temporary openings shall be provided at the base of column forms and wall forms and at other points where necessary to facilitate cleaning and observation immediately before concrete is placed. At construction joints, contact surface of the form sheathing for flush surfaces exposed to view shall overlap the hardened concrete in the previous placement by not more than one inch. The forms shall be held against the hardened concrete to prevent offsets or loss of mortar at the construction joint and to maintain a true surface. All forms shall be clean and free of sawdust, dirt and debris before concrete placement.
- C. All items to be embedded in the concrete shall be properly located and braced to the formwork. Blockouts or openings necessary for future work shall be properly built into the formwork. Coordinate the location of embedded items and blockouts with other trades involved in the project. Blockouts shall be approved by the ENGINEER.
- D. Install waterstops continuous without displacing reinforcement. Heat seal joints watertight.
- E. After cleaning forms and before placing either the reinforcement or the concrete, the surfaces of the forms shall be covered with a coating material that will effectively prevent absorption of moisture and prevent bond with the concrete, and will not stain the concrete surfaces. A field-applied form release agent or sealer or a factory-applied nonabsorptive liner may be used. Manufacturer's recommendations should be followed in the use of coatings, sealers, release agents, and liners, but independent investigation by the CONTRACTOR of their

performance is recommended before use. Where surface treatments and finishes are to be applied to formed concrete surfaces, adhesion of such surface treatments and finishes shall not be impaired or prevented by use of the coating, sealer, release agent, or liner. Excess form coating material shall not be allowed to stand in puddles in the forms, nor shall such coating be allowed to come in contact with hardened concrete against which fresh concrete is to be placed, or with reinforcement.

- F. The CONTRACTOR shall set and maintain concrete forms to ensure that, after removal of the forms and prior to patching and finishing, no portion of the concrete work will exceed any of tolerances specified. Variations in floor levels shall be measured before removal of supporting shores. The CONTRACTOR shall be responsible for variations due to deflection, when the latter results from concrete quality or curing other than that which has been specified. The tolerances specified shall not be exceeded by any portion of any concrete surface; the specified tolerance for one element of the structure to exceed its allowable variations.
- G. Flush with water or use compressed air to remove foreign matter from the formwork. Ensure that the water debris drain to exterior through clean-out ports.
- H. During cold weather, remove ice and snow from within forms. Do not use deicing salts or water to clean out forms, unless formwork and concrete construction proceed within heat enclosure. Use compressed air or other means to remove foreign matter.

3.3 TOLERANCES

- A. Vertical or Horizontal wall surface tolerances shall be within $\frac{1}{4}$ " in 10 feet or a maximum of 1" on walls over 40 feet high. Wall thickness tolerances shall be within $\frac{1}{4}$ " minus or $\frac{1}{2}$ " plus from plan dimensions.
- B. Slab finish tolerances shall be within $\frac{1}{8}$ " in 10 feet. Slab thickness tolerances shall be within $\frac{1}{4}$ " minus or $\frac{1}{4}$ " plus from plan dimensions.
- C. Anchor bolt placement shall be within $\frac{1}{8}$ inch center to center of any two anchor bolts in a group, within $\frac{1}{4}$ inch center to center of adjacent groups, and $\frac{1}{4}$ inch within specified elevation.

3.4 FORM REMOVAL

- A. No construction loads shall be supported on, nor any shoring removed from, any part of the structure under construction except when that portion of the structure in combination with the remaining forming and shoring system has sufficient strength to support safely its weight and the loads placed thereon. This strength may be demonstrated by job-cured test specimens and by a structural analysis considering the proposed loads in relation to these test strengths and the strength of the forming and shoring system. In no case shall beams for walls or columns be removed in less than 24 hours from the completion of the pour. Form work supporting weight of concrete, such as beams and elevated slabs shall remain until the concrete has attained a minimum of 80% of the 28 day design strength.

END OF SECTION 03100

SECTION 03200
CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.1 GENERAL

- A. The CONTRACTOR shall provide complete, in place, all steel required for reinforcement of cast-in-place concrete.

1.2 SUBMITTALS

- A. Submit complete shop DRAWINGS in accordance with Division 01330 of all material proposed to be furnished and installed under this Section.
 - 1. Show schedules, stirrup spacing, diagrams of bent bars and arrangement and assemblies.
 - 2. Shop DRAWINGS shall be in accordance with ACI 315.
- B. Accompanying the Shop DRAWINGS, submit steel producer's certificates of mill analysis, tensile, and bend tests for reinforcing steel.

1.3 PRODUCT HANDLING

- A. Deliver reinforcement to the job site bundled, tagged, and marked. Use metal tags indicating bar size, lengths, and other information corresponding to markings shown on placement diagrams.
- B. Store reinforcement above the surface of the ground upon wooden platforms or other supports in a manner which will prevent damage and accumulation of dirt and excessive rust. The surface of the ground beneath all stored reinforcement shall be covered with plastic sheeting to further assure isolation from dirt and dust.

PART 2 – MATERIALS

2.1 MATERIALS

- A. Reinforcing bars shall comply with ASTM A615.
- B. Welded wire fabric shall comply with ASTM A185.
- C. Supports for reinforcement: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement in place:
 - 1. Use wire bar type supports complying with CRSI recommendations, unless otherwise indicated. Do not use wood, brick, and other unacceptable materials.
 - 2. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support legs.
 - 3. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with either hot-dip galvanized or plastic protected legs.

2.2 FABRICATION

- A. Fabricate reinforcing bars to conform to required shapes and dimensions, with fabrication

tolerances complying with CRSI Manual. In case of fabricating errors, do not rebend or straighten reinforcement in a manner that will injure or weaken the material.

- B. Reinforcement with any of the following defects will not be permitted in the Work.
 - 1. Bar lengths, depths, and bends exceeding specified fabrication tolerances.
 - 2. Bend or kinks not indicated on DRAWINGS or final Shop Drawings.
 - 3. Bars with reduced cross-section due to excessive rusting or other cause.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the foundation, formwork, and the conditions under which concrete reinforcement is to be placed, and correct conditions which would prevent proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General

- 1. Comply with the specified standards for details and methods of reinforcement placement and supports, and as herein specified.
- 2. Clean reinforcement to remove loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete.
- 3. Position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers as required.
- 4. Place reinforcement to obtain the minimum coverage for concrete protection. Arrange, space, and securely tie bars and bar supports together with 16 gage wire to hold reinforcement accurately in position during concrete placement operations. Set wire ties so that twisted ends are directed away from exposed concrete surfaces.
- 5. Install welded wire fabrics in as long lengths as practicable. Lap adjoining pieces at least one full mesh.
- 6. Provide sufficient numbers of supports and of strength to carry reinforcements. Do not place reinforcing bars more than 2" beyond that last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.

B. Splices

- 1. Provide standard reinforcement splices by lapping ends, placing bars in contact, and tightly wire tying. See splice schedule on DRAWINGS. Bars marked continuous shall be lapped as required by splice schedule, and at corners, corner bars shall be provided.

3.3 BAR COVER

- A. Reinforcing bars shall be fabricated, tied and supported to ensure a protective concrete cover as shown on the structural DRAWINGS.

END OF SECTION 03200

**SECTION 03300
CAST-IN-PLACE CONCRETE**

PART 1 - GENERAL

1.1 SUMMARY

- A. Concrete, placing of sleeves, pipes, and anchor bolts, finishing, curing, and all equipment and incidentals necessary to do all the concrete work as shown on the drawings or specified.

1.2 RELATED WORK

- A. Concrete Formwork is included in Division 3.
- B. Concrete Reinforcement is included in Division 3.
- C. Grout is included in Division 3.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01330, complete shop drawings and product data including, but not necessarily limited to:
 - 1. Location of all proposed construction joints, keying, and water stops
 - 2. Location of all openings, depressions, construction and control joints, trenches, sleeves, inserts, and other items affecting the reinforcement and placing of concrete.
 - 3. Complete materials list of items proposed to be furnished and installed under this Section
 - 4. Complete information on cement source of supply, physical and chemical characteristics, transportation and intermediate terminating procedures for mill-to-site handling, and site storage procedures
 - 5. Complete information on aggregate procurement, processing, and storage
 - 6. Complete information on proposed batching and mixing equipment and procedures, including water chilling or other devices or systems to reduce mix temperatures
 - 7. Complete information on concrete handling equipment proposed to be used, including capacities, for chutes, pumps, tremies, buckets, and all other equipment
 - 8. Complete description of proposed curing materials and methods
 - 9. Complete mix designs
 - 10. Remolded joint filler
 - 11. Waterstops
 - 12. Wedge inserts
 - 13. Expansion bolts
 - 14. Anchor bolts
 - 15. Foundation bolts
 - 16. Admixtures
 - 17. Hardening and dust-proofing compounds

18. Form Ties
19. Any gang forming information

B. Test Reports

1. Fine aggregates – sieve analysis, physical properties, and deleterious substances
2. Coarse aggregates - sieve analysis, physical properties, and deleterious substances
3. Cements – chemical analysis and physical properties for each type.
4. Proposed concrete mixes – compressive strength, lump, shrinkage, and air content.

C. Certifications

1. Certify admixtures used in the same concrete mix are compatible with each other and the aggregates.

D. Do not begin concrete production until all products and mix designs have been reviewed by the ENGINEER.

1.4 REFERENCE STANDARDS

A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.

B. American Society for Testing and Materials (ASTM)

1. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
2. ASTM C33 - Standard Specification for Concrete Aggregate.
3. ASTM C39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
4. ASTM C42 - Standard Test Method for Obtaining and testing Drilled Cores and Sawed Beams of Concrete.
5. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
6. ASTM C143 - Standard Test Method for Slump of Hydraulic Cement Concrete.
7. ASTM C150 - Standard Specification for Portland Cement.
8. ASTM C157 - Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete.
9. ASTM C171 - Standard Specification for Sheet materials for Curing Concrete.
10. ASTM C173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
11. ASTM C231 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
12. ASTM C260 - Standard Specification for Air-Entraining Admixtures for Concrete.
13. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
14. ASTM C494 - Standard Specification for chemical Admixtures for Concrete.
15. ASTM C596 - Standard Test Method for Drying Shrinkage of Mortar Containing Hydraulic Cement.

- C. American Concrete Institute (ACI)
 - 1. ACI 211.1 – Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete.
 - 2. ACI 301 - Specifications for Structural Concrete for Buildings
 - 3. ACI 304R – Guide for Measuring, Mixing, Transporting and Placing Concrete.
 - 4. ACI 304.2R – Placing Concrete by Pumping.
 - 5. ACI 305R – Hot Weather Concreting
 - 6. ACI 306R - Cold Weather Concreting
 - 7. ACI 318 – Building Code Requirements for Structural Concrete.
 - D. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.
- 1.5 DELIVERY, STORAGE AND HANDLING
- A. Cement: Store in weathertight buildings, bins or silos to provide protection from dampness and contamination.
 - B. Aggregate: Arrange and use stockpiles to avoid excessive segregation or contamination with other materials or with other sizes of like aggregate. Build stockpiles in successive horizontal layers, not exceeding 3-ft. in thickness. Complete each layer before the next layer is started. Do not use frozen or partially frozen aggregate.
 - C. Sand: Arrange and use stockpiles to avoid contamination. Allow sand to drain to a uniform moisture content before using. Do not use frozen or partially frozen aggregates.
 - D. Admixtures: Store in closed containers to avoid contamination, evaporation, or damage. Provide suitable agitating equipment to assure uniform dispersion of ingredients in admixture solutions that tend to separate. Protect liquid admixtures from freezing and other temperature changes that could adversely affect their characteristics.
 - E. Sheet Curing Material: Store in weathertight buildings or off the ground under cover.
 - F. Liquid Curing Compound: Store in closed containers.

PART 2 - PRODUCTS

2.1 CEMENT

- A. Unless otherwise specified or shown on the DRAWINGS, concrete shall be made with the Portland cement conforming to ASTM Specification C-150, Type I or Type II. All below grade structures and basins coming into contact with wastewater shall be Type II. Above grade structures shall be either Type I or Type II. The lightest colored Portland cement, competitively available shall be used, and the same brand of cement shall be used throughout the entire project.
- B. High early strength Portland cement shall conform to ASTM Standard Specification C150, Type III.

2.2 AGGREGATES

- A. General: All aggregates shall conform to requirements of ASTM C 33.

B. Fine Aggregate

1. The fine aggregate shall consist of clean, hard, durable, uncoated particles of sand. It shall be free from dust mica, shale, alkali, organic matter, loam, soft or flaky particles.
2. Deleterious Substances - The fine aggregate shall contain not more than one percent (1%) by weight of clay lumps of more than three percent (3%) by weight of material removed by decantation.
3. Grading - Fine aggregate shall conform to the following requirements:

<u>Total Passing</u>	<u>Percent by Weight</u>
3/8-in. sieve	100
No. 4 sieve	95 - 100
No. 16 sieve	45 - 95
No. 50 sieve	10 - 30
No. 100 sieve	2 - 8

4. Tests - Fine aggregate shall be subjected to the Colorimetric test for organic impurities and if it produces a color darker than the standard, it shall be rejected. It shall conform in all other respects to ASTM Designation C 33.

C. Coarse Aggregate

1. Composition and Quality - Coarse aggregate shall be washed gravel or crushed stone and shall consist of hard, tough, uncoated, durable particles. It shall contain no vegetable matter or soft, flaky, thin, or elongated particles. Deleterious substances shall not exceed the following amounts:
 - a. Soft fragments 0.20%
 - b. Coal and lignite..... 0.25%
 - c. Clay lumps..... 0.25%
 - d. Material passing No. 200 Sieve 1.50%
 - e. Thin or elongated pieces (length greater than 5 times the average thickness) 10 %

- D. Grading - Coarse aggregate shall be well graded between the limits specified below:

<u>Total Passing</u>	<u>Percent by Weight</u>
2-in. Sieve	100
1-1/2-in. Sieve	90 - 100
1-in. Sieve	55 - 80
3/4-in. Sieve	35 - 70
1/2-in. Sieve	20 - 45
3/8-in. Sieve	10 - 30
No. 4 Sieve.....	0 - 15
No. 16 Sieve.....	0 - 1

2.3 WATER

- A. The water used in mixing concrete shall be fresh, clean, potable and free from oil, acid, alkali,

organic matter, and deleterious amounts of chloride ion.

2.4 CONCRETE ADMIXTURES

- A. Admixtures shall conform to ASTM C 494; Type F for high range water reducing and Type G for high range water-reducing/set-retarding. Air entraining agents shall conform to ASTM C 260. When more than one admixture is used the two products shall be compatible and have a single manufacturer.
- B. All Class "A" Concrete shall contain a (Daracem - 100 or an alternate approved by the ENGINEER) high range water-reducing agent (superplasticizer). The dosage of the high range water reducing agent shall be at least 10 oz./100 lbs. of cement, but shall not produce a plasticized slump greater than 8-in. The high range water reducing agent shall be added at the site prior to concrete placement.
- C. Admixtures, if not specified, may be used only upon written approval of the ENGINEER and shall be used only as recommended by the manufacturer. Admixtures shall, when added to the mixture, produce a concrete of specified strength in both 7 and 28 day tests. Documentary evidence of acceptability will be required when new or unknown admixtures are proposed for usage.
- D. Admixtures shall be Grace Construction Products or an alternate approved by the ENGINEER.

2.5 CLASSIFICATION

- A. The following classes of concrete are included in these specifications and shall be used where specified herein or called for on the DRAWINGS:

	Class "A" Concrete	Class "B" Concrete
Cement content -Minimum number of sacks (94 lb.) per cubic yard	6	5
Maximum water to cement ratio (gal. water per sack cement)	5.1	6.5
Entrained air	3% - 6%	3% - 6%
Minimum Superplasticizer content per 100 lbs. of cement	10 oz.	0 oz.
Minimum 7 day compressive strength	2,400 psi	1,400 psi
Minimum 28 day compressive strength	4,000 psi	2,500 psi

- B. In the absence of contrary designation, concrete used for all construction shall be Class "A".

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before the placing of any concrete, the footing trenches shall be drained of water and mud film removed and any loose dirt lifted out. Any flow of water shall be diverted by side drains to a sump, or removed by other approved methods, while the concrete is being placed.
- B. Before placing concrete in any forms, the forms shall be cleaned, and all debris shall be removed. All reinforcing shall be checked to be sure that the reinforcing is not touching the

form or pan sides.

- C. Before placing any concrete, it shall be determined that all work that is to be built into the concrete work is located and installed. All such items shall be placed so as not to interfere with the reinforcing steel.
- D. Wood board forms shall be soaked with water just before the concrete is poured.
- E. Special measures shall be taken in both severe cold and hot weather and shall be in accordance with ACI Recommended Practice.
- F. Before placing any new concrete on or against concrete that has set, the existing surfaces shall be thoroughly roughened and cleaned of all foreign matter and "Laitance." Forms shall be retightened and the existing surfaces slushed with a coat of grout. The new concrete shall be placed immediately after grouting, and the work shall be performed in such manner as to insure complete bonding of newly poured concrete to the existing work.
- G. Grout for construction joints shall consist of a mixture of neat cement and water, and shall be applied to the old concrete surface immediately before the new concrete is poured. Grout for setting column bases, wall plates, and beams shall be composed of one part Portland cement two parts sand, and sufficient water to produce the consistency required.
- H. Where excavations exceeding a depth of five feet are prescribed to be made to install the foundations or any part of the structure of this building, or any retaining walls on the site, the back slope of such excavation shall be at an incline not exceeding one vertical to one and one-half horizontal unless such back slope is sheeted and braced. If sheeting and bracing is to be provided, such sheeting and bracing shall be designed by an ENGINEER registered in the state of Georgia. Design shall provide for such pressures presented in the latest edition of the CRSI Design Handbook, unless a registered soils engineer determines more specific pressures. The cost of such design work shall be paid for by the CONTRACTOR.

3.2 MIXING AND DELIVERY

- A. Machine Mixing: All mixing of concrete shall be done in a batch mixer, of approved design, which will insure a uniform distribution of the material throughout the mass, so that the mixture is uniform in color and homogenous. The entire content of the mixer drum shall be discharged before recharging. All material to be mixed per batch shall not exceed the manufacturers' rated capacity of the mixer.
- B. Time of Mixing: The mixing of each batch shall continue not less than one and one-half (1-1/2) minutes after all the materials, including water, are in the mixer, during which time the mixer shall rotate at a peripheral speed of about two hundred (200) feet per minute.
- C. Mixing at Central Plant: Concrete mixed in a central plant, shall be conveyed to the work in approved mixer trucks that mix the concrete in route to the work. Plant layout and equipment shall meet the approval of the ENGINEER. Loading tickets shall be initialed and the time of loading stamped thereon. The loading tickets shall be handed to the ENGINEER on the work before the load is placed, and no concrete will be accepted which has been in the mixer truck more than one and one-half (1-1/2) hours after the water has been added. In all other respects, ready mixed concrete shall conform to ASTM Specification C 94.
- D. Waste concrete shall be deposited and mix trucks washed out only in areas designated by the owner or the ENGINEER.

3.3 SLUMP

- A. The maximum slump allowed for the various types of construction are as follows:

<u>Type of Construction</u>	<u>Maximum Slump</u>
Reinforced Foundation Walls & Footings	4-in.
Slabs, Beams, Reinforced Walls & Columns.....	4-in.
Heavy Mass Construction	2-in.
All Concrete Plasticized by Admixtures	8-in.

- B. Slump tests shall be made at the discretion of the ENGINEER, and concrete having greater slump than specified shall not be incorporated into the work. The CONTRACTOR shall furnish slump test cones conforming to the provisions of ASTM C 143.

3.4 PLACING CONCRETE

- A. All concrete shall be placed in daylight, and any portion of the concrete work started shall be started so that it can be completed in daylight. No concrete shall be placed until the foundation, forms, false-work, and the placing of the steel have been approved by the ENGINEER. Approval by the ENGINEER does not relieve the CONTRACTOR of his obligation to produce finished concrete as required.
- B. The concrete shall be placed in such a manner as to avoid the possibility of segregation of the aggregates, or the displacement of the reinforcement steel. The concrete shall be placed as near its final resting place as possible. If pipes, troughs, or chutes are used in placing the concrete, they shall be arranged and used so the concrete is not separated, and shall be kept clean and free of hardened concrete at all times. Troughs and chutes shall be either made of metal or shall be metal lined, and shall extend as nearly as possible to the point of deposit.
1. In walls and columns, the concrete shall not be dropped more than five (5) feet without the use of a tremie. Concrete shall be placed in continuous horizontal layers, approximately 10-in. to 12-in thick, and the batches shall follow each other so closely that each one is placed and compacted before the preceding one has taken an initial set. Succeeding layers shall be placed before the underlying layer has become set, and shall be compacted in a manner that will entirely break up and obliterate the tendency to produce a construction joint between layers.
 2. Concrete in beams, girders, columns and walls shall be well spaded at the form surface and all concrete shall be compacted by an approved mechanical type vibrator having a frequency of not less than 8,000 vibrations per minute. The CONTRACTOR shall provide the necessary number of vibrators to properly execute the work, and shall have on the job at all times necessary spare vibrators to be used in case of mechanical failure. Construction joints shall be made only at the location as shown on the DRAWINGS, except by approval of the ENGINEER.
- C. In making construction joints, the previous work shall be cleaned of all "laitance", and other objectionable material, and shall be brushed with a thin mixture of Portland cement and water immediately before the new concrete is placed.
- D. The operation of placing and compacting the concrete shall be conducted so as to form a compact, dense, impervious artificial stone of uniform texture, with smooth faces on exposed surfaces. Any section of concrete that is porous, or has been plastered, or is otherwise defective, shall be removed and replaced, in whole or in part, entirely at the CONTRACTOR'S expense, as directed by the ENGINEER.
- E. Depositing Concrete Under Water: Concrete shall not be exposed to the action of water

before setting, or deposited in the water, except upon the approval of the ENGINEER, and under his supervision.

F. Cold Weather Placing

1. Comply with ACI 306 to protect all concrete work from physical damage and reduced strength that would be caused by frost, freezing actions, or low temperatures. No concrete shall be placed when the atmosphere temperature is below 40° F.
2. If the temperature drops below 40° F after the concrete has been placed, the CONTRACTOR shall provide adequate means for maintaining concrete temperature of not less than 45° F for a period of five (5) days after the concrete is placed. The CONTRACTOR shall assume all risk connected with placing concrete in cold weather, and any unsatisfactory work will be rejected. Recording thermometers shall be supplied by the CONTRACTOR as required by the ENGINEER.

G. Hot Weather Placing: When hot weather conditions exist which would seriously impair the quality and strength of concrete, place the concrete as follows:

1. Maintain concrete temperature at time of placement below 90° F. Use chilled mixing water or chopped ice to control concrete temperature, provided the water equivalent of the ice is calculated to the total amount of water.
2. Cover reinforcing steel with water soaked burlap if the steel becomes too hot. Steel temperature shall not exceed the ambient air temperature immediately prior to placement of concrete.
3. Wet forms thoroughly prior to placement of concrete.
4. Use set control admixtures in the mix.

3.5 PROTECTION AND CORRECTIVE WORK

- A. Workmen shall not walk on concrete during placing or finishing with any earth or foreign matter footwear.
- B. All freshly placed concrete shall be protected from damage or injury due to water, falling objects, persons or anything that might mar or injure the finish surface of the concrete. Any surfaces that are damaged shall be removed and replaced with fresh concrete at the expense of the CONTRACTOR.
- C. Care shall be taken in the removal of the forms not to damage the surface of the concrete. Immediately after the forms are removed, all damaged or imperfect work shall be patched. If in the opinion of the ENGINEER, the patching does not restore the work to the quality specified, the CONTRACTOR shall remove and rebuild the work at his expense.
- D. Where DRAWINGS call for walls to be shored before backfill is made against them, the walls are to be shored to resist the active pressure of the earth as tabulated in the latest edition of the CRSI Design Handbook. Such shoring is to remain in place until the wall is "tied in" to the floor slab on ground. Such walls are not to be construed as "free standing".
- E. Where concrete or concrete work does not conform to these specifications and where patching is not approved by the ENGINEER or low strength concrete is not permitted to remain in place, procedures and DRAWINGS covering all work to be rebuilt shall be submitted by the CONTRACTOR to the ENGINEER before removal and rebuilding is begun. The cost of such DRAWINGS, as well as the cost of removal and rebuilding shall be at the

CONTRACTOR'S expense.

3.6 FINISHING

A. Floors, including slabs on ground, shall be finished as follows:

1. The surfaces of all concrete shall be worked with a wood float in a manner that will compact the concrete and produce a surface free of depressions or inequalities of any kind. Test for grade (of level) and correct by removing excess or adding and compacting additional concrete.
2. All interior floor slabs shall receive steel trowel finish as follows:
 - a. After screeding, slab shall be wood floated to a smooth, plane surface.
 - b. When concrete has hardened, to prevent excess fines from working to surface, steel trowel to a smooth surface free from defects. A second steel troweling shall be done producing a plane, hard, dense, finished surface.
 - c. Interior slabs shall also receive a hardening and dust proofing treatment of a colorless aqueous solution of zinc or magnesium fluosilicate applied in strict accordance with manufacturer's recommendations.
 - d. Troweling shall not begin until all surface water has disappeared. The drying of the surface moisture before troweling must proceed naturally and must not be hastened by sacking or dusting on of dry sand and cement.
3. After exterior floors, platforms and steps are struck off smooth with a wood float and received a trowel finish, slightly roughen the concrete surface by brooming in the direction perpendicular to the main traffic route. Use a fiber bristle broom.
4. Exposed concrete surfaces shall be finished as follows:
 - a. The exterior surfaces of all concrete shall be thoroughly worked during the placing operation, by the use of a concrete spade of approved type. The working shall force all coarse aggregate from the faces, and work mortar against the forms to produce a smooth finish, free from water and air pockets, or honeycomb.
 - b. After the concrete has set sufficiently to permit, the forms shall be carefully removed and all depressions resulting from removal of the metal spacers, and all other holes and rough places, shall be carefully pointed with a mortar composed of one part cement and two parts sand.
 - c. The surface film of all such pointed surfaces shall be carefully removed before setting occurs. The cement in the mortar used for pointing and filling holes shall be of the same brand as the cement incorporated in the concrete work.
 - d. Surface shall be rubbed smooth with carborundum brick or other abrasive within 36 hours after forms are removed. Surfaces shall be wetted and rubbed until a uniform color and texture is produced. No cement grout or slush shall be used other than the cement paste drawn from the green concrete itself by the rubbing process.
5. Exposed interior and exterior concrete walls and ceilings shall also receive an additional finish of thorocoat products as described in Division 9. Finish 2 feet below finish grade and 3 feet below low water mark on basins.

B. Unless otherwise directed the following schedule shall be used for concrete finishing:

1. Sidewalks Rough (Broomed)

2. Exposed Exterior Walls Medium (Rubbed)
 3. Interior Structure Walls Fine (Rubbed)
 4. Additional Wall Finish..... ThoroCoat per manufacturer's recommendations
 5. Slabs - Interior..... Smooth (Troweled)
 6. Slabs - Exterior..... Medium (Fine broomed)
- C. Coordinate the required finish with the ENGINEER prior to application.

3.7 CURING

A. Curing Materials

1. Liquid curing and sealing compounds shall conform to ASTM C 309, Type 1.
2. Sheet materials shall conform to ASTM C 171.
3. Burlap cloth made from jute or kenaf and weighing approximately 9 oz. per sq yd for moist curing shall conform to AASHTO M 182 and shall use two layers.
4. Compounds shall be a combination sealer-hardener and dust-proofer.

B. Procedure

1. Freshly placed concrete shall be protected from wash caused by rain and flowing water.
2. Concrete shall not be allowed to dry out from the time it is placed until seven (7) days thereafter.
3. Curing shall be accomplished by the use of an approved membrane compound to seal the water in the concrete except for surfaces that are to receive future concrete, or mortar.
4. The membrane shall be of a type that will retain ninety-seven percent (97%) of the moisture at a temperature of 135° F, with a relative humidity of thirty percent (30%) in the first twenty four (24) hours. It shall be applied in accordance with the manufacturer's recommendations and in sufficient thickness to effectively hold the water in the concrete, and must have a record of successful use for at least two years.

3.8 JOINTS

A. Construction Joints:

1. Construction joints will not be permitted except as may be shown on the Drawings and on the CONTRACTOR'S approved placement schedule.
2. If construction joints necessary for the progress of the Work are not shown on the Drawings, show them in complete detail on the Shop Drawings.
3. Provide keyways at least 1-1/2-in. deep in all construction joints in walls, slabs, and between footings and walls as shown on the DRAWINGS.

B. Isolation joints in slabs on grade:

1. Provide isolation joints in slabs on grade at points of contact between slabs on grade and vertical surfaces where indicated.

C. Control joints in slabs on grade (non watertight):

2. Control joints for non watertight slabs on ground shall be 24 gauge, galvanized, preshaped, keyed type. Joints shall be ½-in. less in depth than the slab. Joints shall be held in place with 1-in. x 1/8-in. ribbed stakes at 2-ft.-0-in. on center on the female side. The male side of the joint shall be greased or sprayed with a bond breaker.
3. Approved joints shall be as follows: Burke Concrete Accessories, Inc., Jahn Concrete Forming Products, or Keyhold, Inc.

3.9 WATER TIGHTNESS

- A. All structures for holding or carrying water, or pits below grade shall be watertight.
- B. Where the order of work requires "cold" joints (slab/wall intersections etc.), an approved, rigid waterstop shall be secured to the form work and remain imbedded in the concrete to form a watertight joint with the adjacent pour.
- C. Waterstop shall be expandable center bulb type 6 in. wide x ¼-in. thick minimum unless otherwise specifically shown on the DRAWINGS.

3.10 TESTING OF CONCRETE

- A. Testing of concrete will be done under the direction of a laboratory approved by the ENGINEER. Tests to be paid for by the CONTRACTOR.
- B. Samples for strength tests will be taken not less than one per day nor less than once per one hundred (100) cubic yards or more, and on less yardage when required by the ENGINEER. The tests shall be made in accordance with the procedure set forth in ASTM C 172 for Standard Method of Making and Storing Compression Test Specimens of Concrete in the Field, and C 39 for Standard Methods of Test for Compressive Strength Concrete. Tests shall be made by a recognized laboratory approved by the ENGINEER.
- C. Three certified copies of test results shall be furnished to the ENGINEER with each test. Each test shall consist of at least four specimens, two for field control and two for laboratory control. Each set of four cylinders shall have a numerical designation and each cylinder an alphabetical sub-designation. Thus the first set of four cylinders shall be numbered 1A, 1B, 1C, and 1D.
- D. If the evaluation of the compressive test indicates the concrete has failed to meet the specified strength, core tests shall be made of the in-place concrete. The location and number of such tests to be at the ENGINEER'S direction. Tests shall be paid for by the CONTRACTOR.
- E. If the core tests fail to verify the strength specified, the ENGINEER shall effect one of the following procedures:
 1. Have the CONTRACTOR remove and reconstruct that portion of the structure found to be defective.
 2. Accept the concrete in place and issue a change order as set forth in the General Conditions of these specifications.
- F. Tests to determine the entrained air content will be made at the job site. Frequency of testing shall be at the ENGINEER'S discretion as necessary to ensure proper air content. The testing apparatus shall be furnished by the CONTRACTOR, concrete supplier or testing laboratory at no cost to the Owner, and testing will be performed by the CONTRACTOR in the presence of the ENGINEER.

3.11 BACKFILL AGAINST WALLS

- A. Do not backfill against wall until concrete has obtained 28 day compressive strength.
- B. Place backfill simultaneously on both sides of wall, where required, to prevent differential pressures.

3.12 CLEANING OF BAINS

- A. Thoroughly clean all basins before placing into service. Remove all construction debris, clean all interior surfaces using water under pressure.
- B. All potable water holding basins shall be sterilized per Division 1.

END OF SECTION 03300

SECTION 03410
PRECAST STRUCTURAL CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following precast concrete units:
 - 1. Precast concrete vault(s)

1.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide precast structural concrete units and connections capable of withstanding design loads within limits and under conditions indicated.

1.3 SUBMITTALS

- A. Submittals shall comply with Section 01330 for each product included in this section.
- B. Design Mixes: For each concrete mix.
- C. Shop Drawings: Detail fabrication and installation of precast structural concrete units. Indicate member locations, plans, elevations, dimensions, shapes, cross sections, openings, and types of reinforcement, including special reinforcement.
 - 1. Comprehensive engineering analysis signed and sealed by the qualified professional engineer responsible for its preparation.
 - 2. Include calculated fire-resistance analysis.
- D. Samples: For bearing pads.
- E. Welding certificates.
- F. Material certificates.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator firm that assumes responsibility for engineering precast structural concrete units to comply with performance requirements.
 - 1. Participates in PCI's Plant Certification program and is designated a PCI-certified plant.
- B. Design Standards: Comply with ACI 318 and the design recommendations in PCI MNL 120, "PCI Design Handbook--Precast and Prestressed Concrete."
- C. Quality-Control Standard: Comply with PCI MNL 116, "Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products."
- D. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel"; and AWS D1.4, "Structural Welding Code--Reinforcing Steel."
- E. Calculated Fire Resistance: Where indicated, provide precast structural concrete units whose fire resistance has been calculated according to ACI 216.1/TMS 0216.1, "Standard Method for Determining Fire Resistance of Concrete and Masonry Construction Assemblies," and is acceptable to authorities having jurisdiction.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store units at Project site to prevent cracking, distorting, warping, staining, or other physical damage, and so markings are visible.
- B. Lift and support units only at designated lifting and supporting points shown on Shop Drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel Reinforcement

- 1. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- 2. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- 3. Plain-Steel Wire: ASTM A 82, as drawn.
- 4. Deformed-Steel Wire: ASTM A 496.
- 5. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- 6. Deformed-Steel Welded Wire Fabric: ASTM A 497, flat sheet.
- 7. Prestressing Strand: ASTM A 416/A 416M, Grade 250 or 270, uncoated, 7-wire, low-relaxation strand.

B. Concrete

- 1. Portland Cement: ASTM C 150, Type I or Type III, of same type, brand, and source.
- 2. Normal-Weight Aggregates: Except as modified by PCI MNL 116, ASTM C 33 or , with coarse aggregates complying
- 3. Air-Entraining Admixture: ASTM C 260.
- 4. Fly Ash Admixture: ASTM C 618, Class C or F.
- 5. Metakaolin Admixture: ASTM C 618, Class N.
- 6. Silica Fume Admixture: ASTM C 1240.

C. Steel Connections

- 1. Carbon-Steel Shapes and Plates: ASTM A 36/A 36M.
- 2. Carbon-Steel Headed Studs: ASTM A 108, AISI 1018 through AISI 1020, cold finished; AWS D1.1, Type A or B, with arc shields.
- 3. Carbon-Steel Bolts and Studs: ASTM A 307, Grade A; carbon-steel, hex-head bolts and studs; carbon-steel nuts; and flat, unhardened steel washers.
- 4. Finish: For exterior steel items, steel in exterior walls, and items indicated for galvanizing, apply zinc coating by hot-dip process according to ASTM A 123/A 123M, after fabrication, and ASTM A 153/A 153M, as applicable.
- 5. Shop-Primed Finish: Prepare surfaces of nongalvanized steel items, except those surfaces to be embedded in concrete, according to requirements in SSPC-SP 3 and shop-apply lead- and chromate-free, rust-inhibitive primer, complying with performance requirements in FS TT-P-664 according to SSPC-PA 1.

D. Bearing Pads:

1. Elastomeric Pads: AASHTO M 251, plain, vulcanized, 100 percent polychloroprene (neoprene) elastomer, molded to size or cut from a molded sheet, 50 to 70 Shore A durometer, minimum tensile strength 2250 psi per ASTM D 412.
 2. Random-Oriented, Fiber-Reinforced Elastomeric Pads: Preformed, randomly oriented synthetic fibers set in elastomer. Surface hardness of 70 to 90 Shore A durometer.
 3. Cotton-Duck-Fabric-Reinforced Elastomeric Pads: Preformed, horizontally layered cotton-duck fabric bonded to an elastomer. Surface hardness of 80 to 100 Shore A durometer.
 4. Frictionless Pads: Tetrafluoroethylene, glass-fiber reinforced, bonded to mild-steel plate, of type required for in-service stress.
 5. Hardboard: AHA A135.4, Class 1, tempered hardboard strips, smooth on both sides.
 6. High-Density Plastic: Multimonomer, nonleaching, plastic strip.
- E. Sand-Cement Grout: Portland cement, ASTM C 150, Type I, and clean, natural sand, ASTM C 144. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.
- F. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, of consistency suitable for application.
- G. Epoxy Grout: ASTM C 881, 2-component epoxy resin, of type, grade, and class to suit requirements.

2.2 CONCRETE MIXES

- A. Prepare design mixes for each type of concrete required.
- B. Normal-Weight Concrete: Proportion mixes by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
1. Compressive Strength (28 Days): 5000 psi.
 2. Maximum Water-Cementitious Materials Ratio: 0.40.
 3. Air Content: 6 percent with a tolerance of plus or minus 1-1/2 percent.

2.3 FABRICATION

- A. Built-in Anchorages: Accurately position built-in anchorage devices and secure to formwork. Locate anchorages where they do not affect position of main reinforcement or concrete placement. Do not relocate bearing plates in units unless approved by Architect.
- B. Cast-in openings larger than 10 inches in diameter or 10 inches square according to Shop Drawings. Smaller holes may be field cut by trades requiring them, as approved by Architect.
- C. Reinforcement: Comply with recommendations in CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- D. Prestress tendons for precast structural concrete units by either pretensioning or posttensioning methods. Comply with PCI MNL 116.

- E. Mix concrete according to PCI MNL 116 and requirements in this Section. After concrete batching, no additional water may be added.
- F. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units. Comply with requirements in PCI MNL 116 for measuring, mixing, transporting, and placing concrete.
- G. Identify pickup points of precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint casting date on each precast concrete unit on a surface that will not show in finished structure.
- H. Cure concrete, according to requirements in PCI MNL 116, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture.
- I. Product Tolerances: Fabricate precast structural concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished unit complies with PCI MNL 116 product tolerances.
- J. Finish formed surfaces of precast structural concrete as indicated for each type of unit, and as follows:
 - 1. Grade B Finish: Fill air pockets and holes larger than 1/4 inch in diameter with sand-cement paste matching color of adjacent surfaces. Grind smooth form offsets or fins larger than 1/8 inch.
- K. Screed finish unformed surfaces. Strike off and consolidate concrete with vibrating screeds to a uniform finish. Hand screed at projections.
 - 1. Apply scratch finish to precast concrete units that will receive concrete topping after installation. After initial strikeoff, transversely scarify surface to provide ridges approximately 1/4 inch deep.
- L. Recess prestressing tendons a minimum of 1/2 inch, fill recesses with grout, and apply a sack finish to vertical ends of precast concrete units.
- M. Concrete Topping: Provide 2" of normal weight concrete topping on all precast double tees.

2.4 SOURCE QUALITY CONTROL

- A. Owner will employ an independent testing agency to evaluate precast structural concrete fabricator's quality-control and testing methods.
- B. Quality-Control Testing: Test and inspect precast concrete according to PCI MNL 116 requirements.
- C. Strength of precast concrete units will be considered deficient if units fail to comply with PCI MNL 116 requirements.
- D. Defective Work: Precast concrete units that do not comply with requirements, including strength, manufacturing tolerances, and finishes, are unacceptable. Replace with precast concrete units that comply with requirements.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Bearing Pads: Install bearing pads as precast concrete units are being erected. Set pads on true, level, and uniform bearing surfaces and maintain in correct position until precast concrete units are placed.

- B. Install precast structural concrete. Shore and brace precast concrete units to maintain location, stability, and alignment until permanent connections are installed.
- C. Welding: Perform welding in compliance with AWS D1.1 and AWS D1.4, with qualified welders.
 - 1. Repair damaged steel surfaces by cleaning and repriming damaged painted surfaces.
- D. Fasteners: Do not use drilled or powder-actuated fasteners for attaching accessory items to precast, prestressed concrete units unless approved by Architect.
- E. Erection Tolerances: Install precast concrete units level, plumb, square, and true, without exceeding the recommended erection tolerances in PCI MNL 127, "Recommended Practice for Erection of Precast Concrete."
- F. Grouting Connections and Joints: After precast concrete units have been placed and secured, grout open spaces at keyways, connections, and joints.
- G. Clean exposed surfaces of precast concrete units after erection to remove weld marks, other markings, dirt, and stains.

END OF SECTION 03410

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SECTION 05650 ALUMINUM HATCHES

PART 1 - GENERAL

1.1 SUMMARY

- A. Furnish all labor, equipment, materials and incidentals required to fabricate and install aluminum hatches for interior and exterior locations.

1.2 SUBMITTALS

- A. Product Data: For each product specified.
- B. Product Data: For each type of hatch specified.
- C. Shop Drawings: Include manufacturer's cut sheets, dimensional drawings, and installation procedures.

PART 2 - PRODUCTS

2.1 General

A. Interior Hatches

Interior hatches shall be single or double leaf per the drawings equal to Bilco Type J-AL or JD-AL. Covers shall be 1/4" aluminum diamond pattern plate, alloy 6061-t6, reinforced to withstand a live load of 300 pounds per square foot. Frame shall be an extrusion, alloy 6063-t6, with a continuous anchor feature incorporated. Frame is designed to direct rain water via the channel frame to drain connection. Door shall be equipped with a minimum of two heavy duty aluminum hinges with stainless steel pins so designed as to allow the cover to hinge 180 degrees and come to rest on the floor slab a recessed watertight stainless steel handle will be provided to lift and close the cover. Compression spring operators shall assist in the lifting of the covers. Provide EPDM gasket mechanically attached to the frame.

B. Exterior Hatches

Exterior hatches in concrete vaults and pits shall be single or double leaf per the drawings and equal to Bilco Type J-AL H-20 or JD-AL H-20. Covers shall be 1/4" aluminum diamond pattern plate, alloy 6061-t6, reinforced to withstand a H-20 wheel load. Frame shall be an extrusion, alloy 6063-t6, with a continuous anchor feature incorporated. Frame is designed to direct rain water via the channel frame to drain connection. Door shall be equipped with a minimum of two heavy duty aluminum hinges with stainless steel pins so designed as to allow the cover to hinge 180 degrees and come to rest on the floor slab a recessed watertight stainless steel handle will be provided to lift and close the cover. Compression spring operators shall assist in the lifting of the covers. Provide EPDM gasket mechanically attached to the frame.

PART 3 - EXECUTION

- 3.1 Installation shall be in accordance with manufacturer's instructions.
- A. Manufacturer shall guarantee against defects in material or workmanship for a period of five years.
 - B. The contractor shall furnish piping embedded in the concrete to drain hatches.
 - C. The frame drain shall be piped to the exterior of the top whether cast-in-place or pre-cast.

END OF SECTION 05650

SECTION 09800
STEEL WATER TANK PAINTING

PART 1 - GENERAL

1.1 SCOPE

- A. Work covered within this section includes the cleaning, painting and disinfection of all interior and exterior surfaces of the elevated water storage tank, including ladders, vents, balcony, overflow pipe and handrails.
- B. The Contractor shall paint the City of Flowery Branch Logo as shown on the plans on two sides of the tank, with exact side to be field determined. The City will provide the actual color descriptions to the contractor.
- C. It is the Contractor's responsibility to assure that surrounding buildings, vehicles and structures are not damaged or sprayed with paint, regardless of the environmental conditions. If buildings, vehicles or structures are damaged due to the painting, it is the Contractor's responsibility repair and/or replace the items damaged.

1.2 SUBMITTALS

- A. Submit to the Owner's Representative, in accordance with Division 1, all copies of materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Product Data: Submit manufacturer's descriptive data fully describing each product including solids by volume and un-thinned volatile organic compounds (VOC)'s. Include manufacturer's recommendations for mixing, thinning, and curing.
 - 2. Certificates: Submit manufacturers certified test reports confirming compliance with the specified performance requirements under Paragraph 1.3.
 - 3. Colors: Submit 4 color charts for color selection.
 - 4. Lead Content: Submit manufacturer's certification that products to be supplied are lead free (less than 600 ppm lead).

1.3 REFERENCE STANDARDS

- A. American Water Works Association
 - 1. AWWA D100 – Standard for Welded Steel Tanks for Water Storage
 - 2. AWWA D102 – Standard for Painting Steel Water Storage Tanks
 - 3. AWWA C652 – Standard for Disinfection of Water Storage Facilities
- B. National Sanitation Foundation
 - 1. NSF 61 – Material in Contact with Potable Water
- C. Steel Structures Painting Council Manual – Volume 1 – Good Painting Practice
- D. Steel Structures Painting Council Manual – Volume 2 – Systems and Specifications
- E. Federal Test Methods for the Performance of Paints and Coatings.

1.4 QUALITY ASSURANCE

A. Contractor Qualifications

1. The Contractor shall have three years practical experience and successful history in the Application of specified product to surfaces of steel water tanks. Upon request, he shall substantiate this requirement by furnishing a list of references and job completions.
2. The Contractor shall submit with his bid a written statement by the coatings manufacturer stating that the Contractor is familiar with the materials specified and has workers capable of performing the work specified herein.
3. The personnel performing the work shall be knowledgeable and have the required experience and skill to adequately perform the work for this project, in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting".

B. General

1. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Engineer.
2. Materials for each coating system shall be those of a single manufacturer. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.
3. All prime, intermediate and finish coating materials shall be applied in different color shades.
4. The Contractor shall obtain the approval of the Engineer of the steel surface preparation and of each coat of paint prior to applying succeeding coats. Such approval will not relieve the Contractor of the obligations stated within.
5. The Contractor shall record environmental conditions at the beginning of each daily operation, thirty minutes before painting begins and every hour during painting operations.

C. Surface Preparation

1. Surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces: SSPC-VIS 1-89", ASTM Designation D2200-95, "Pictorial Surface Preparation Standards for Painting Steel Surfaces", ASTM D 4417-91, Method A and/or Method C "Field Measurement of Surface Profile of Blast Cleaned Steel" or NACE Standard RP0287-87 "Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape". In all cases the written standard shall take precedence over the visual standard. In addition, NACE Standard RP0178-91, "Fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Service", along with the Visual Comparator, shall be used to verify the surface preparation of welds.

D. No coating or paint shall be applied when:

1. The surrounding air temperature or the temperature of the surface to be coated or painted is below the minimum surface temperature for the products specified herein.
2. Rain, snow, fog or mist is present.
3. The surface temperature is less than 5F above the dew point,
4. The air temperature is expected to drop below the minimum temperature for the products specified within six hours after application of coating. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables.

5. If any of the above conditions are prevalent, coating or painting shall be delayed or postponed until conditions are favorable. The day's coating or painting shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.
- E. Thickness and Holiday Checking:
1. Thickness of coatings and paint shall be checked with a non-destructive, magnetic-type thickness gauge, as per SSPC-PA 2 "Measurement of Dry Film Thickness with Magnetic Gages". References in PA 2 which allow 80% of the minimum thickness specified are not acceptable. Use an instrument such as a Tooke Gauge if a destructive test is deemed necessary by the Engineer.
 2. The integrity of interior coated surfaces shall be checked with a low voltage holiday detector in accordance with NACE Standard RP0188. Non-destructive holiday detector shall not exceed 67.5 volts, nor shall destructive holiday detector exceed the voltage recommended by the manufacturer of the coating system. A solution of 1 ounce non-sudsing type wetting agent, such as Kodak Photo-Flo, and 1 gallon of tap water shall be used to perform the holiday testing. All pinholes and/or holidays shall be marked and repaired in accordance with the manufacturer's printed recommendations and retested. No pinholes or other irregularities will be permitted in the final coating.
- F. The contractor shall furnish, until final acceptance of coating and painting is accepted, inspection devices in good working condition for detection of holidays and measurement of dry film thickness of coating and paint. The Contractor shall also furnish U.S. Department of Commerce, National Bureau of Standards certified thickness calibration plates and/or plastic shims, depending upon the thickness gauge used, to test the accuracy of dry film thickness gauges and certified instrumentation to test the accuracy of holiday detectors. Dry film gauges and holiday detectors shall be made available for the Engineer's use at all times until final acceptance of application. Holiday detection devices shall be operated in the presence of the Engineer.
- G. Inspection for this project shall consist of 'hold point' inspections. The Engineer or his representative shall inspect the surface prior to abrasive blasting, after abrasive blasting but prior to application of coating materials, and between subsequent coats of material. Final inspection shall take place after all coatings are applied, but prior to placing the tank in service. Contractor will insure that sufficient rigging is in place so that the Engineer or his representative shall be able to conduct the required inspections.
- H. Warranty inspection shall be conducted during the eleventh month following acceptance of all coating and painting work. All defective work shall be repaired in accordance with this specification and to the satisfaction of the Engineer and/or Owner.
- I. Do not paint over nameplates, tagging, or other identification devices.
- J. Contractor shall hire a third-party to conduct the testing in presence of the Owner Engineer. See Section 13412 for additional information.

1.5 SAFETY AND HEALTH REQUIREMENTS

A. General

1. The Contractor shall comply with all regulations as established by the Occupational Safety and Health Act and other government authorities.
2. In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical bulletins and manuals, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working on or about the project site.

- B. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. In addition, workers engaged in or near the work during sandblasting shall wear eye and face protection devices and air purifying halfmask or mouthpiece respirators with appropriate filters. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation shall reduce the concentration of air contaminants to a degree a hazard does not exist. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protection devices.
- E. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the inspector.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.

1.6 PRODUCT DELIVERY, STORAGE & HANDLING

- A. All materials shall be brought to the jobsite in original sealed containers. They shall not be used until the Engineer has inspected the contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- B. All coatings and paints shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings and paints must be stored to conform with City, County, State and Federal safety codes for flammable coating or paint materials. At all times coatings and paints shall be protected from freezing.

PART 2 - MATERIALS

2.1 ACCEPTABLE MANUFACTURERS

- A. Materials specified are those that have been evaluated for the specific service. Products of the Tnemec Company, Inc. are listed to establish a standard of quality. Equivalent materials of other manufacturer's may be submitted on written approval of the Engineer. As part of the proof of equality, the Engineer will require at the cost of the Contractor, certified test reports from a nationally known, reputable and independent testing laboratory conducting comparative tests as directed by the Engineer between the product specified and the requested substitution.
- B. Requests for substitution shall include manufacturer's literature for each product giving name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified lab test reports showing results to equal the performance criteria of the products specified herein. In addition, a list of five projects shall be submitted in which each product has been used and rendered satisfactory service.
- C. All requests for product substitution shall be made at least 10 days prior to the bid date.
- D. Any material savings shall be passed to the owner in the form of a contract dollar reduction.

- E. Manufacturer's color charts shall be submitted to the Engineer at least 30 days prior to coating and/or paint application. General Contractor and Painting Contractor shall coordinate work so as to allow sufficient time (normally seven to ten days) for paint to be delivered to the job site.

2.2 GENERAL REQUIREMENTS

- A. All materials shall be lead-free as defined by the Consumer Product Safety Act, Part 1303.
- B. All zinc dust pigment contained in any zinc-rich material shall meet the requirements of ASTM D 520 Type III as regards zinc content and purity.
- C. All materials for the interior wetted portion of the tank shall meet the requirements of ANSI/NSF Standard 61 for potable water contact.
- D. All high gloss clear coat products shall incorporate the use of a fugitive dye to aid in the proper application and coverage of such coats.
- E. All catalyzed polyurethane products shall meet the minimum requirements of SSPC Paint Specification Number 36, Level 3 Performance Level.

2.3 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

2.4 SHOP-APPLIED PRIMER – BOTH SIDES OF PLATE

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Anchor profile shall be primarily angular and irregular, as produced by a blend of grit and shot.
- C. Zinc-Rich Primer: Tnemec Series 94 Hydro-Zinc applied at 2.5 to 3.5 dry mils. Thin only with approved thinner, Tnemec 41-49 or 41-3 Thinner.

2.5 FIELD-APPLIED TANK INTERIOR COATING SYSTEMS

- A. Three Coat System:
 - 1. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
 - 2. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP10 Near White Metal Blast Cleaning and above.
 - 3. Coating System:

1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
2. Field 1st Coat: Tnemec Series N140-1255 Beige Pota-Pox applied at 6.0 to 8.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.
3. Field 2nd Coat: Tnemec Series N140-15BL Tank White Pota-Pox applied at 6.0 to 8.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.
4. Total dry film thickness shall be a minimum of 14.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
5. For cold weather applications, substitute Tnemec Series FC20 in lieu of Series 20.

2.6 FIELD-APPLIED TANK EXTERIOR COATING SYSTEMS

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP6 Commercial Blast Cleaning and above.
- C. Coating System:
 1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
 - a. 1st Field Coat: Tnemec Series 1075 -Color applied at 2.0 to 3.0 dry mils. Thin only with approved thinner. 41-39 for brush or roller.
 - b. 2nd Field Coat: Tnemec Series 700-Color Endura-Shield applied at 2.0 to 3.0 dry mils. Thin only with approved thinner, , 41-63 for brush or roller.
 2. Total dry film thickness shall be a minimum of 6.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
 3. The finish color of the exterior shall match the existing tank color.

PART 3 - EXECUTION

3.1 GENERAL

- A. All surface preparation, coating and painting shall conform to applicable standards of the Steel Structures Painting Council, NACE International and the manufacturer's printed instructions. Materials applied to the surface prior to the approval of the Engineer shall be removed and re-applied to the satisfaction of the Engineer at the expense of the contractor.
- B. All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be coordinated with the Engineer.
- C. The Contractor shall provide a supervisor at the work site during cleaning and application operations. The supervisor shall have the authority to sign and change orders, coordinate work and make decisions pertaining to the fulfillment of the contract.

- D. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the coating or paint must be removed by washing with clean rags dipped in an approved cleaning solvent and wiped dry with clean rags.
- E. Coating and painting systems include surface preparation, prime coating and finish coatings. Unless otherwise approved in writing by the Engineer, prime coating shall be field applied. Where prime coatings are shop applied, the Contractor shall instruct suppliers to provide the prime coat compatible with the specified finish coat. Any off-site work which does not conform to this specification, is subjected to damage during transportation, construction or installation shall be thoroughly cleaned and touched-up in the field as directed by the Engineer. The Contractor shall use repair procedures which insure the complete protection of all adjacent primer. The specified repair method and equipment may include wirebrushing, hand or power tool cleaning, or dry air blast cleaning. In order to prevent injury to surrounding painted surfaces, blast cleaning may require use of lower air pressure, smaller nozzle and/or abrasive blast particles, or shorter blast nozzle distances from surface shielding and masking. If damage is too extensive or uneconomical to touch-up, the entire item shall be blasted and then coated or painted as directed by the Engineer.
- F. The Contractor's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Contractor's equipment shall be subject to approval of the Engineer.
- G. Application of the first coat shall follow immediately after surface preparation and cleaning and stripe coat, if applicable, before rust bloom occurs or the same day, whichever is less. Any cleaned areas not receiving first coat within this period shall be recleaned prior to application of first coat. Use of dehumidification equipment shall be first reviewed by the Engineer and coatings manufacturer prior to deviating from this provision.
- H. Prior to assembly, all surfaces made inaccessible after assembly shall be prepared as specified herein and shall receive the coating or paint system specified.

3.2 SURFACE PREPARATION

- A. The latest revision of the following surface preparation specifications of the Steel Structures Painting Council (SSPC) shall form a part of this specification. The summaries listed below are for informational purposes; consult the actual SSPC specification for full detail.
 - 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods which involve a solvent or cleaning action.
 - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mil scale and other detrimental foreign matter to a degree specified by hand chipping, scraping, sanding and wirebrushing
 - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mil scale and other detrimental foreign matter by power wirebrushing, power impact tools or power sanders.
 - 4. White Metal Blast Cleaning (SSPC-SP5/NACE No. 1): Air blast cleaning to a gray-white uniform metallic color until each element of surface area is free of all visible residues.
 - 5. Commercial Blast Cleaning (SSPC-SP6 NACE No. 3): Air blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 - 6. Brush-Off Blast Cleaning (SSPC-SP7 NACE No. 4): Air blast cleaning to remove loose rust, loose mil scale and other detrimental foreign matter to a degree specified.
 - 7. Near-White Metal Blast Cleaning (SSPC-SP10 NACE No. 2): Air blast cleaning until at least 95% of each element of surface area is free of all visible residues.

8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Differs from SSPC-SP3 in that it requires more thorough cleaning and a surface profile not less than 1 mil.
- B. Slag, weld metal accumulation and spatters not removed by the Fabricator, Erector or Installer shall be removed by chipping and/or grinding. All sharp edges shall be peened, ground or otherwise blunted as required by the Engineer. All grinding and finishing of welds, edges, etc. shall be performed prior to solvent cleaning and abrasive blasting. Welds shall be prepared as per NACE Standard RP0178 for all interior and exterior surfaces:
 1. Butt Welds: Shall be ground smooth and free of all defects, designation "D".
 2. Lap Welds: Shall be ground smooth and blended., designation "D".
 3. Fillet Welded Tee Joint: Shall be ground smooth and blended, designation "D"
- C. All recycled abrasives used in automated shop blasting shall be clean as per SSPC-AB2 "Cleanliness of Recycled Ferrous Metallic Abrasives". All shop blasting utilizing centrifugal-type equipment shall utilize a blend of shot and grit (maximum of 80% shot). In no case shall steel shot alone be permitted. After blast cleaning, the surface of the steel shall appear angular and irregular. Should the surface appear peened or undulating, the steel shall be reblasted to achieve the correct appearance.
- D. All welds shall be neutralized with a suitable chemical compatible with the specified coating or paint.
- E. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Blast nozzles shall be venturi-type nozzles with a minimum pressure at the nozzle of 90 psi.
- F. Particle size of abrasives used in blast cleaning shall be that which will produce a 1.5 - 2.5 mil (37.5 microns - 65.0 microns) surface profile or in accordance with recommendations of the manufacturer of the specified coating or paint system to be applied. If the profile of the blasted steel exceeds the profile specified above, the Contractor shall be required to do one or both of the following:
 1. Reblast the surface using a finer aggregate in order to produce the required profile.
 2. Apply a thicker prime coat, if possible given the limitations of the products being applied, in order to adequately cover the blast profile
- G. All shop-primed surfaces shall receive a uniform and thorough sweep-blast as per SSPC-SP7/NACE No. 4. All bare metal areas shall be abrasive blasted as per SSPC-SP10/NACE No. 2 Near-White Blast Cleaned for interior surfaces and SSPC-SP6/NACE No. 3 Commercial Blast Cleaning for all exterior surfaces.
- H. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants that would interfere with adhesion of coating or paint and shall not be reused unless specifically approved in writing by the Engineer.
- I. During blast cleaning operations, caution shall be exercised to insure that existing coatings or paint are not exposed to abrasion from blast cleaning.
- J. The Contractor shall keep the area of his work and the surrounding environment in a clean condition. He shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the accomplishment of the work, the operation of the existing facilities or to the surrounding environment.
- K. Blast cleaned surfaces shall be cleaned prior to application of specified coatings or paint. All surfaces shall be free of dust, dirt, and other residue resulting from the abrasive blasting operation. No coatings or paint shall be applied over damp or moist surfaces.
- L. Specific Surface Preparation: Surface preparation for the specific system shall be as noted in Sections 2.04, 2.05, and 2.06.

3.3 APPLICATION, GENERAL

- A. Coating and paint application shall conform to the requirements of the Steel Structure Painting Council Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting".
- B. Thinning shall be permitted only as recommended by the manufacturer and approved by the Engineer, and utilizing the thinners stated in Sections 2.04, 2.05, and 2.06..
- C. Each application of coating or paint shall be applied evenly, free of brush marks, sags, runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coatings and paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.
- D. Protective coverings or drop cloths shall be used to protect floors, fixtures and equipment. Care shall be exercised to prevent coatings or paints from being spattered onto surfaces which are not to be coated or painted. Report to the Engineer surfaces from which materials cannot be satisfactorily removed.
- E. When two coats of coating or paint are specified, where possible, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.
- F. Film thickness per coat as specified in Sections 2.04, 2.05, 2.06, and 2.07 are the minimum required. If roller application is deemed necessary, the Contractor shall apply additional coats as to achieve the specified thickness.
- G. All material shall be as specified.

3.4 COATING SYSTEMS APPLICATION

- A. After completion of surface preparation as specified for the specific system, materials shall be applied as noted in Sections 2.04, 2.05, 2.06, and 2.07.
- B. Care shall be taken so as to eliminate overspray and dry spray on the tank interior. Where such conditions are encountered, the surface shall be cleaned of all over spray and dry spray prior to the application of the succeeding coat.

3.5 DISINFECTION

- A. Disinfection shall be completed as described in Specification 13412. Disinfection of interior surfaces shall be performed in the presence of the Engineer in accordance with all the requirements of applicable AWWA Standards and regulatory agencies.
- B. Disinfection shall be performed after protective coatings have been applied to the interior surfaces and allowed to thoroughly cure.
- C. Prior to disinfecting, the complete interior shall be washed down with clean water and thoroughly flushed out.
- D. All interior surfaces shall be thoroughly washed with a solution having a minimum chlorine content of 50 PPM. Chlorine solution accumulated on the bottom shall be drained to waste. Rinsing with clean water is not required.

3.6 SOLVENT VAPOR REMOVAL

- A. All solvent vapors shall be completely removed by suction-type exhaust fans and blowers before placing tank in operating service.

- B. All solvent vapors will be exhausted both during and after coating application at a minimum rate of one air change every four hours to allow the proper curing of the coating material. High rates of production may require an increase in ventilation.
- C. Ventilation shall be continued until such time as the coating has reached "full cure" as specified by the coating manufacturer.

3. 7 CLEAN UP

- A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Engineer. Coating or paint spots or oil stains upon adjacent surfaces shall be removed and the jobsite cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired or refinished to the satisfaction of the Engineer at no cost to the Owner.

END OF SPECIFICATION 09800

SECTION 09800
STEEL WATER TANK PAINTING

PART 1 - GENERAL

1.1 SCOPE

- A. Work covered within this section includes the cleaning, painting and disinfection of all interior and exterior surfaces of the elevated water storage tank, including ladders, vents, balcony, overflow pipe and handrails.
- B. The Contractor shall paint the City of Flowery Branch Logo as shown on the plans on two sides of the tank, with exact side to be field determined. The City will provide the actual color descriptions to the contractor.
- C. It is the Contractor's responsibility to assure that surrounding buildings, vehicles and structures are not damaged or sprayed with paint, regardless of the environmental conditions. If buildings, vehicles or structures are damaged due to the painting, it is the Contractor's responsibility repair and/or replace the items damaged.

1.2 SUBMITTALS

- A. Submit to the Owner's Representative, in accordance with Division 1, all copies of materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Product Data: Submit manufacturer's descriptive data fully describing each product including solids by volume and un-thinned volatile organic compounds (VOC)'s. Include manufacturer's recommendations for mixing, thinning, and curing.
 - 2. Certificates: Submit manufacturers certified test reports confirming compliance with the specified performance requirements under Paragraph 1.3.
 - 3. Colors: Submit 4 color charts for color selection.
 - 4. Lead Content: Submit manufacturer's certification that products to be supplied are lead free (less than 600 ppm lead).

1.3 REFERENCE STANDARDS

- A. American Water Works Association
 - 1. AWWA D100 – Standard for Welded Steel Tanks for Water Storage
 - 2. AWWA D102 – Standard for Painting Steel Water Storage Tanks
 - 3. AWWA C652 – Standard for Disinfection of Water Storage Facilities
- B. National Sanitation Foundation
 - 1. NSF 61 – Material in Contact with Potable Water
- C. Steel Structures Painting Council Manual – Volume 1 – Good Painting Practice
- D. Steel Structures Painting Council Manual – Volume 2 – Systems and Specifications
- E. Federal Test Methods for the Performance of Paints and Coatings.

1.4 QUALITY ASSURANCE

A. Contractor Qualifications

1. The Contractor shall have three years practical experience and successful history in the Application of specified product to surfaces of steel water tanks. Upon request, he shall substantiate this requirement by furnishing a list of references and job completions.
2. The Contractor shall submit with his bid a written statement by the coatings manufacturer stating that the Contractor is familiar with the materials specified and has workers capable of performing the work specified herein.
3. The personnel performing the work shall be knowledgeable and have the required experience and skill to adequately perform the work for this project, in accordance with SSPC-PA1, "Shop, Field and Maintenance Painting".

B. General

1. Quality assurance procedures and practices shall be utilized to monitor all phases of surface preparation, application and inspection throughout the duration of the project. Procedures or practices not specifically defined herein may be utilized provided they meet recognized and accepted professional standards and are approved by the Engineer.
2. Materials for each coating system shall be those of a single manufacturer. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.
3. All prime, intermediate and finish coating materials shall be applied in different color shades.
4. The Contractor shall obtain the approval of the Engineer of the steel surface preparation and of each coat of paint prior to applying succeeding coats. Such approval will not relieve the Contractor of the obligations stated within.
5. The Contractor shall record environmental conditions at the beginning of each daily operation, thirty minutes before painting begins and every hour during painting operations.

C. Surface Preparation

1. Surface preparation will be based upon comparison with: "Pictorial Surface Preparation Standards for Painting Steel Surfaces: SSPC-VIS 1-89", ASTM Designation D2200-95, "Pictorial Surface Preparation Standards for Painting Steel Surfaces", ASTM D 4417-91, Method A and/or Method C "Field Measurement of Surface Profile of Blast Cleaned Steel" or NACE Standard RP0287-87 "Field Measurement of Surface Profile of Abrasive Blast Cleaned Steel Surfaces Using a Replica Tape". In all cases the written standard shall take precedence over the visual standard. In addition, NACE Standard RP0178-91, "Fabrication Details, Surface Finish Requirements, and Proper Design Considerations for Tanks and Vessels to be Lined for Immersion Service", along with the Visual Comparator, shall be used to verify the surface preparation of welds.

D. No coating or paint shall be applied when:

1. The surrounding air temperature or the temperature of the surface to be coated or painted is below the minimum surface temperature for the products specified herein.
2. Rain, snow, fog or mist is present.
3. The surface temperature is less than 5F above the dew point,
4. The air temperature is expected to drop below the minimum temperature for the products specified within six hours after application of coating. Dewpoint shall be measured by use of an instrument such as a Sling Psychrometer in conjunction with U.S. Department of Commerce Weather Bureau Psychrometric Tables.

5. If any of the above conditions are prevalent, coating or painting shall be delayed or postponed until conditions are favorable. The day's coating or painting shall be completed in time to permit the film sufficient drying time prior to damage by atmospheric conditions.
- E. Thickness and Holiday Checking:
 1. Thickness of coatings and paint shall be checked with a non-destructive, magnetic-type thickness gauge, as per SSPC-PA 2 "Measurement of Dry Film Thickness with Magnetic Gages". References in PA 2 which allow 80% of the minimum thickness specified are not acceptable. Use an instrument such as a Tooke Gauge if a destructive test is deemed necessary by the Engineer.
 2. The integrity of interior coated surfaces shall be checked with a low voltage holiday detector in accordance with NACE Standard RP0188. Non-destructive holiday detector shall not exceed 67.5 volts, nor shall destructive holiday detector exceed the voltage recommended by the manufacturer of the coating system. A solution of 1 ounce non-sudsing type wetting agent, such as Kodak Photo-Flo, and 1 gallon of tap water shall be used to perform the holiday testing. All pinholes and/or holidays shall be marked and repaired in accordance with the manufacturer's printed recommendations and retested. No pinholes or other irregularities will be permitted in the final coating.
- F. The contractor shall furnish, until final acceptance of coating and painting is accepted, inspection devices in good working condition for detection of holidays and measurement of dry film thickness of coating and paint. The Contractor shall also furnish U.S. Department of Commerce, National Bureau of Standards certified thickness calibration plates and/or plastic shims, depending upon the thickness gauge used, to test the accuracy of dry film thickness gauges and certified instrumentation to test the accuracy of holiday detectors. Dry film gauges and holiday detectors shall be made available for the Engineer's use at all times until final acceptance of application. Holiday detection devices shall be operated in the presence of the Engineer.
- G. Inspection for this project shall consist of 'hold point' inspections. The Engineer or his representative shall inspect the surface prior to abrasive blasting, after abrasive blasting but prior to application of coating materials, and between subsequent coats of material. Final inspection shall take place after all coatings are applied, but prior to placing the tank in service. Contractor will insure that sufficient rigging is in place so that the Engineer or his representative shall be able to conduct the required inspections.
- H. Warranty inspection shall be conducted during the eleventh month following acceptance of all coating and painting work. All defective work shall be repaired in accordance with this specification and to the satisfaction of the Engineer and/or Owner.
- I. Do not paint over nameplates, tagging, or other identification devices.
- J. Contractor shall hire a third-party to conduct the testing in presence of the Owner Engineer. See Section 13412 for additional information.

1.5 SAFETY AND HEALTH REQUIREMENTS

A. General

1. The Contractor shall comply with all regulations as established by the Occupational Safety and Health Act and other government authorities.
2. In accordance with requirements set forth by regulatory agencies applicable to the construction industry and manufacturer's printed instructions and appropriate technical bulletins and manuals, the Contractor shall provide and require use of personal protective lifesaving equipment for persons working on or about the project site.

- B. Head and Face Protection and Respiratory Devices: Equipment shall include protective helmets which shall be worn by all persons while in the vicinity of the work. In addition, workers engaged in or near the work during sandblasting shall wear eye and face protection devices and air purifying halfmask or mouthpiece respirators with appropriate filters. Barrier creams shall be used on any exposed areas of skin.
- C. Ventilation: Where ventilation is used to control hazardous exposure, all equipment shall be explosion-proof. Ventilation shall reduce the concentration of air contaminants to a degree a hazard does not exist. Air circulation and exhausting of solvent vapors shall be continued until coatings have fully cured.
- D. Sound Levels: Whenever the occupational noise exposure exceeds maximum allowable sound levels, the Contractor shall provide and require the use of approved ear protection devices.
- E. Illumination: Adequate illumination shall be provided while work is in progress, including explosion-proof lights and electrical equipment. Whenever required by the Engineer, the Contractor shall provide additional illumination and necessary supports to cover all areas to be inspected. The level of illumination for inspection purposes shall be determined by the inspector.
- F. Temporary Ladders and Scaffolding: All temporary ladders and scaffolding shall conform to applicable safety requirements. They shall be erected where requested by the Engineer to facilitate inspection and be moved by the Contractor to locations requested by the Engineer.

1.6 PRODUCT DELIVERY, STORAGE & HANDLING

- A. All materials shall be brought to the jobsite in original sealed containers. They shall not be used until the Engineer has inspected the contents and obtained data from information on containers or label. Materials exceeding storage life recommended by the manufacturer shall be rejected.
- B. All coatings and paints shall be stored in enclosed structures to protect them from weather and excessive heat or cold. Flammable coatings and paints must be stored to conform with City, County, State and Federal safety codes for flammable coating or paint materials. At all times coatings and paints shall be protected from freezing.

PART 2 - MATERIALS

2.1 ACCEPTABLE MANUFACTURERS

- A. Materials specified are those that have been evaluated for the specific service. Products of the Tnemec Company, Inc. are listed to establish a standard of quality. Equivalent materials of other manufacturer's may be submitted on written approval of the Engineer. As part of the proof of equality, the Engineer will require at the cost of the Contractor, certified test reports from a nationally known, reputable and independent testing laboratory conducting comparative tests as directed by the Engineer between the product specified and the requested substitution.
- B. Requests for substitution shall include manufacturer's literature for each product giving name, product number, generic type, descriptive information, solids by volume, recommended dry film thickness and certified lab test reports showing results to equal the performance criteria of the products specified herein. In addition, a list of five projects shall be submitted in which each product has been used and rendered satisfactory service.
- C. All requests for product substitution shall be made at least 10 days prior to the bid date.
- D. Any material savings shall be passed to the owner in the form of a contract dollar reduction.

- E. Manufacturer's color charts shall be submitted to the Engineer at least 30 days prior to coating and/or paint application. General Contractor and Painting Contractor shall coordinate work so as to allow sufficient time (normally seven to ten days) for paint to be delivered to the job site.

2.2 GENERAL REQUIREMENTS

- A. All materials shall be lead-free as defined by the Consumer Product Safety Act, Part 1303.
- B. All zinc dust pigment contained in any zinc-rich material shall meet the requirements of ASTM D 520 Type III as regards zinc content and purity.
- C. All materials for the interior wetted portion of the tank shall meet the requirements of ANSI/NSF Standard 61 for potable water contact.
- D. All high gloss clear coat products shall incorporate the use of a fugitive dye to aid in the proper application and coverage of such coats.
- E. All catalyzed polyurethane products shall meet the minimum requirements of SSPC Paint Specification Number 36, Level 3 Performance Level.

2.3 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

2.4 SHOP-APPLIED PRIMER – BOTH SIDES OF PLATE

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Anchor profile shall be primarily angular and irregular, as produced by a blend of grit and shot.
- C. Zinc-Rich Primer: Tnemec Series 94 Hydro-Zinc applied at 2.5 to 3.5 dry mils. Thin only with approved thinner, Tnemec 41-49 or 41-3 Thinner.

2.5 FIELD-APPLIED TANK INTERIOR COATING SYSTEMS

- A. Three Coat System:
 - 1. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
 - 2. Surface Preparation: SSPC-SP10 Near-White Metal Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP10 Near White Metal Blast Cleaning and above.
 - 3. Coating System:

1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
2. Field 1st Coat: Tnemec Series N140-1255 Beige Pota-Pox applied at 6.0 to 8.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.
3. Field 2nd Coat: Tnemec Series N140-15BL Tank White Pota-Pox applied at 6.0 to 8.0 dry mils. Thin only with approved thinner, Tnemec 41-4 Thinner.
4. Total dry film thickness shall be a minimum of 14.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
5. For cold weather applications, substitute Tnemec Series FC20 in lieu of Series 20.

2.6 FIELD-APPLIED TANK EXTERIOR COATING SYSTEMS

- A. Surface Preparation Prior to Abrasive Blast Cleaning: Weld flux and spatter shall be removed by power tool cleaning. Sharp projections shall be ground to a smooth contour. All welds shall be ground to a smooth contour as per NACE Standard RP0178 and herein.
- B. Surface Preparation: SSPC-SP6 Commercial Blast Cleaning on all bare metal areas (such as weld seams, etc.) and all shop-primed areas damaged during transportation and erection. Anchor profile shall be 1.5 to 2.0 mils as per ASTM D 4417, Method C or NACE Standard RP0287. Any bare metal exposed shall be prepared as per SSPC-SP6 Commercial Blast Cleaning and above.
- C. Coating System:
 1. Stripe Coat: Tnemec Series 91H20 applied by brush and scrubbed into all weld seams. In addition to weld seams, all edges, corners, bolts, rivets, pits, bare metal, shall receive a stripe coat of Series 91H20 at 2.5 - 3.5 mils dry.
 - a. 1st Field Coat: Tnemec Series 1075 -Color applied at 2.0 to 3.0 dry mils. Thin only with approved thinner. 41-39 for brush or roller.
 - b. 2nd Field Coat: Tnemec Series 700-Color Endura-Shield applied at 2.0 to 3.0 dry mils. Thin only with approved thinner, , 41-63 for brush or roller.
 2. Total dry film thickness shall be a minimum of 6.5 mils per SSPC-PA 2 dry film inspection standards, with exception as noted in this specification.
 3. The finish color of the exterior shall match the existing tank color.

PART 3 - EXECUTION

3.1 GENERAL

- A. All surface preparation, coating and painting shall conform to applicable standards of the Steel Structures Painting Council, NACE International and the manufacturer's printed instructions. Materials applied to the surface prior to the approval of the Engineer shall be removed and re-applied to the satisfaction of the Engineer at the expense of the contractor.
- B. All work shall be performed by skilled craftsmen qualified to perform the required work in a manner comparable with the best standards of practice. Continuity of personnel shall be coordinated with the Engineer.
- C. The Contractor shall provide a supervisor at the work site during cleaning and application operations. The supervisor shall have the authority to sign and change orders, coordinate work and make decisions pertaining to the fulfillment of the contract.

- D. Dust, dirt, oil, grease or any foreign matter that will affect the adhesion or durability of the coating or paint must be removed by washing with clean rags dipped in an approved cleaning solvent and wiped dry with clean rags.
- E. Coating and painting systems include surface preparation, prime coating and finish coatings. Unless otherwise approved in writing by the Engineer, prime coating shall be field applied. Where prime coatings are shop applied, the Contractor shall instruct suppliers to provide the prime coat compatible with the specified finish coat. Any off-site work which does not conform to this specification, is subjected to damage during transportation, construction or installation shall be thoroughly cleaned and touched-up in the field as directed by the Engineer. The Contractor shall use repair procedures which insure the complete protection of all adjacent primer. The specified repair method and equipment may include wirebrushing, hand or power tool cleaning, or dry air blast cleaning. In order to prevent injury to surrounding painted surfaces, blast cleaning may require use of lower air pressure, smaller nozzle and/or abrasive blast particles, or shorter blast nozzle distances from surface shielding and masking. If damage is too extensive or uneconomical to touch-up, the entire item shall be blasted and then coated or painted as directed by the Engineer.
- F. The Contractor's coating and painting equipment shall be designed for application of materials specified and shall be maintained in first class working condition. Compressors shall have suitable traps and filters to remove water and oils from the air. Contractor's equipment shall be subject to approval of the Engineer.
- G. Application of the first coat shall follow immediately after surface preparation and cleaning and stripe coat, if applicable, before rust bloom occurs or the same day, whichever is less. Any cleaned areas not receiving first coat within this period shall be recleaned prior to application of first coat. Use of dehumidification equipment shall be first reviewed by the Engineer and coatings manufacturer prior to deviating from this provision.
- H. Prior to assembly, all surfaces made inaccessible after assembly shall be prepared as specified herein and shall receive the coating or paint system specified.

3.2 SURFACE PREPARATION

- A. The latest revision of the following surface preparation specifications of the Steel Structures Painting Council (SSPC) shall form a part of this specification. The summaries listed below are for informational purposes; consult the actual SSPC specification for full detail.
 - 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil and other contaminants by use of solvents, emulsions, cleaning compounds, steam cleaning or similar materials and methods which involve a solvent or cleaning action.
 - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mil scale and other detrimental foreign matter to a degree specified by hand chipping, scraping, sanding and wirebrushing
 - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mil scale and other detrimental foreign matter by power wirebrushing, power impact tools or power sanders.
 - 4. White Metal Blast Cleaning (SSPC-SP5/NACE No. 1): Air blast cleaning to a gray-white uniform metallic color until each element of surface area is free of all visible residues.
 - 5. Commercial Blast Cleaning (SSPC-SP6 NACE No. 3): Air blast cleaning until at least two-thirds of each element of surface area is free of all visible residues.
 - 6. Brush-Off Blast Cleaning (SSPC-SP7 NACE No. 4): Air blast cleaning to remove loose rust, loose mil scale and other detrimental foreign matter to a degree specified.
 - 7. Near-White Metal Blast Cleaning (SSPC-SP10 NACE No. 2): Air blast cleaning until at least 95% of each element of surface area is free of all visible residues.

8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Differs from SSPC-SP3 in that it requires more thorough cleaning and a surface profile not less than 1 mil.
- B. Slag, weld metal accumulation and spatters not removed by the Fabricator, Erector or Installer shall be removed by chipping and/or grinding. All sharp edges shall be peened, ground or otherwise blunted as required by the Engineer. All grinding and finishing of welds, edges, etc. shall be performed prior to solvent cleaning and abrasive blasting. Welds shall be prepared as per NACE Standard RP0178 for all interior and exterior surfaces:
 1. Butt Welds: Shall be ground smooth and free of all defects, designation "D".
 2. Lap Welds: Shall be ground smooth and blended., designation "D".
 3. Fillet Welded Tee Joint: Shall be ground smooth and blended, designation "D"
- C. All recycled abrasives used in automated shop blasting shall be clean as per SSPC-AB2 "Cleanliness of Recycled Ferrous Metallic Abrasives". All shop blasting utilizing centrifugal-type equipment shall utilize a blend of shot and grit (maximum of 80% shot). In no case shall steel shot alone be permitted. After blast cleaning, the surface of the steel shall appear angular and irregular. Should the surface appear peened or undulating, the steel shall be reblasted to achieve the correct appearance.
- D. All welds shall be neutralized with a suitable chemical compatible with the specified coating or paint.
- E. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed. Blast nozzles shall be venturi-type nozzles with a minimum pressure at the nozzle of 90 psi.
- F. Particle size of abrasives used in blast cleaning shall be that which will produce a 1.5 - 2.5 mil (37.5 microns - 65.0 microns) surface profile or in accordance with recommendations of the manufacturer of the specified coating or paint system to be applied. If the profile of the blasted steel exceeds the profile specified above, the Contractor shall be required to do one or both of the following:
 1. Reblast the surface using a finer aggregate in order to produce the required profile.
 2. Apply a thicker prime coat, if possible given the limitations of the products being applied, in order to adequately cover the blast profile
- G. All shop-primed surfaces shall receive a uniform and thorough sweep-blast as per SSPC-SP7/NACE No. 4. All bare metal areas shall be abrasive blasted as per SSPC-SP10/NACE No. 2 Near-White Blast Cleaned for interior surfaces and SSPC-SP6/NACE No. 3 Commercial Blast Cleaning for all exterior surfaces.
- H. Abrasive used in blast cleaning operations shall be new, washed, graded and free of contaminants that would interfere with adhesion of coating or paint and shall not be reused unless specifically approved in writing by the Engineer.
- I. During blast cleaning operations, caution shall be exercised to insure that existing coatings or paint are not exposed to abrasion from blast cleaning.
- J. The Contractor shall keep the area of his work and the surrounding environment in a clean condition. He shall not permit blasting materials to accumulate as to constitute a nuisance or hazard to the accomplishment of the work, the operation of the existing facilities or to the surrounding environment.
- K. Blast cleaned surfaces shall be cleaned prior to application of specified coatings or paint. All surfaces shall be free of dust, dirt, and other residue resulting from the abrasive blasting operation. No coatings or paint shall be applied over damp or moist surfaces.
- L. Specific Surface Preparation: Surface preparation for the specific system shall be as noted in Sections 2.04, 2.05, and 2.06.

3.3 APPLICATION, GENERAL

- A. Coating and paint application shall conform to the requirements of the Steel Structure Painting Council Paint Application Specification SSPC-PA1, latest revision, for "Shop, Field and Maintenance Painting".
- B. Thinning shall be permitted only as recommended by the manufacturer and approved by the Engineer, and utilizing the thinners stated in Sections 2.04, 2.05, and 2.06..
- C. Each application of coating or paint shall be applied evenly, free of brush marks, sags, runs, with no evidence of poor workmanship. Care shall be exercised to avoid lapping on glass or hardware. Coatings and paints shall be sharply cut to lines. Finished surfaces shall be free from defects or blemishes.
- D. Protective coverings or drop cloths shall be used to protect floors, fixtures and equipment. Care shall be exercised to prevent coatings or paints from being spattered onto surfaces which are not to be coated or painted. Report to the Engineer surfaces from which materials cannot be satisfactorily removed.
- E. When two coats of coating or paint are specified, where possible, the first coat shall contain sufficient approved color additive to act as an indicator of coverage or the two coats must be of contrasting color.
- F. Film thickness per coat as specified in Sections 2.04, 2.05, 2.06, and 2.07 are the minimum required. If roller application is deemed necessary, the Contractor shall apply additional coats as to achieve the specified thickness.
- G. All material shall be as specified.

3.4 COATING SYSTEMS APPLICATION

- A. After completion of surface preparation as specified for the specific system, materials shall be applied as noted in Sections 2.04, 2.05, 2.06, and 2.07.
- B. Care shall be taken so as to eliminate overspray and dry spray on the tank interior. Where such conditions are encountered, the surface shall be cleaned of all over spray and dry spray prior to the application of the succeeding coat.

3.5 DISINFECTION

- A. Disinfection shall be completed as described in Specification 13412. Disinfection of interior surfaces shall be performed in the presence of the Engineer in accordance with all the requirements of applicable AWWA Standards and regulatory agencies.
- B. Disinfection shall be performed after protective coatings have been applied to the interior surfaces and allowed to thoroughly cure.
- C. Prior to disinfecting, the complete interior shall be washed down with clean water and thoroughly flushed out.
- D. All interior surfaces shall be thoroughly washed with a solution having a minimum chlorine content of 50 PPM. Chlorine solution accumulated on the bottom shall be drained to waste. Rinsing with clean water is not required.

3.6 SOLVENT VAPOR REMOVAL

- A. All solvent vapors shall be completely removed by suction-type exhaust fans and blowers before placing tank in operating service.

- B. All solvent vapors will be exhausted both during and after coating application at a minimum rate of one air change every four hours to allow the proper curing of the coating material. High rates of production may require an increase in ventilation.
- C. Ventilation shall be continued until such time as the coating has reached "full cure" as specified by the coating manufacturer.

3. 7 CLEAN UP

- A. Upon completion of the work, all staging, scaffolding and containers shall be removed from the site or destroyed in a manner approved by the Engineer. Coating or paint spots or oil stains upon adjacent surfaces shall be removed and the jobsite cleaned. All damage to surfaces resulting from the work of this section shall be cleaned, repaired or refinished to the satisfaction of the Engineer at no cost to the Owner.

END OF SPECIFICATION 09800

SECTION 09902

PAINTING

PART 1 - GENERAL

1.1 WORK INCLUDED

Furnish all labor, materials, tools and scaffolding as required to paint or otherwise finish all exposed and submerged piping and valves; equipment; interior and exterior concrete block; structural steel and miscellaneous metals including bar joist; masonry walls; finished walls and ceilings; exposed concrete walls; and miscellaneous materials not factory finished and exposed to view both interior and exterior. Paint all interior and exterior wall except the interior walls for a water holding structures.

1.2 RELATED WORK

A. Steel Water Tank Painting Section 09800.

1.3 QUALITY ASSURANCE

- A. Work shall be performed by skilled applicators thoroughly trained in necessary crafts and completely familiar with specific requirements and methods specified herein.
- B. Manufacturer's representative shall be available to advise applicator on proper application techniques and procedures.
- C. Materials for each coating system shall be those of a single manufacturer.
- D. Paint systems for field-applied finish coats shall be compatible with shop-applied primers.

1.4 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)
- B. Federal Test Methods for the Performance of Paints and Coatings.
- C. Steel Structures Painting Council (SSPC)
- D. National Sanitation Foundation (NSF)
- E. Occupational Safety and Health Act (OSHA)

1.5 SUBMITTALS

- A. Product Data: Submit manufacturer's descriptive data fully describing each product including solids by volume and unthinned volatile organic compounds (VOC)'s. Include manufacturer's recommendations for mixing, thinning, and curing.
- B. Certificates: Submit manufacturer's certified test reports confirming compliance with the specified performance requirements under Paragraph 2.3.
- C. Colors: Submit 4 color charts for color selection.
- D. Lead Content: Submit manufacturers certification that products to be supplied are lead free (less than 600 ppm lead).
- E. Submit 2 copies of the Material Data Safety for each type of paint.

1.6 PRODUCT DELIVERY, STORAGE, HANDLING

- A. Deliver materials in factory-sealed containers with manufacturer's labels intact and legible.
- B. Store materials in protected area at a temperature between 35 degrees F. and 110 degrees F.

1.7 JOB CONDITIONS

- A. Apply coatings only under the following prevailing conditions:
 - 1. The air and surface to be painted temperatures are not below 40 F. or above 120 F.
 - 2. Relative humidity is not above 85 percent and the surface to be painted temperature is at least 5 degrees Fahrenheit above the dew point.
- B. Protect all surfaces not to be coated.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Products specified herein are manufactured by TNEMEC Company Inc., Kansas City, Missouri and are specified for identification of paint types, and as standards of quality, not necessarily as brand preference.
- B. Equivalent materials of other manufacturers may be submitted for approval. Pre-approved manufacturers not listed in the paint schedule are: Carboline Coatings Company, St. Louis, MO.; Sherwin Williams Company, Orlando, FL.; Ameron Protective Coating, Brea, CA., and Induron. All alternate coatings must be the same generic type as the coatings specified.

2.2 MATERIALS

- A. Materials shall be first line products of the manufacturer used. The manufacturer's catalog numbers are only for the purpose of identifying the item. Suppliers shall be as listed herein or an alternate approved by the Engineer.
- B. Unless otherwise specified, paints to be used for final coats shall be available in a full range of colors and shades, 15 different colors minimum.

2.3 REQUIREMENTS

- A. Coatings in contact with potable water shall be NSF certified.
- B. Materials shall be first line products of the manufacturer used. The manufacturer's catalog numbers are only for the purpose of identifying the item. Suppliers shall be as listed herein or an alternate approved by the Engineer.
- C. Bidders desiring to use coatings other than those specified shall submit their proposal in writing to the Engineer for consideration. Substitutions which decrease the film thickness, number of coats applied, change the generic type of coating, or fail to meet the performance criteria of the specified materials will not be approved. Prime and finish coats of all surfaces shall be furnished by the same manufacturer.
- D. Requests for substitutions shall include manufacturer's literature for each product giving the name, generic type, descriptive information, and evidence of satisfactory past performance.
- E. Primers and Paints containing lead or chromates may not be used.
- F. Where concrete block is to be painted, the contractor shall first submit two block samples painted with the specified blockfiller and finish coats. The Engineer shall approve or reject the samples. If the samples are rejected the Engineer shall indicate the reasons for rejection and the contractor shall make corrections in his application method and submit a new sample. Once accepted the samples will become reference standards by which all block must be painted.

2.4 PAINT SCHEDULE

- A. Interior and Exterior Ductile Iron Pipe and Fittings Non-submerged.
 - 1st Coat Tnemec: Series 66, 1 coat 3.0-5.0 mils.
 - 2nd Coat Tnemec: Series 66, 1 coat 3.0-5.0 mils.
 - 3rd Coat Tnemec: Acrylic Polyurethane, 1 coat 2.0-3.0 mils.

Total Paint system 8.0-13.0 mils.

B. Submerged Service Ductile Iron Pipe and Fittings

1st Coat Tnemec: Series 69 High Build Epoxoline , 1 coat 4.0-6.0 mils.

2nd Coat Tnemec: Series 69, 1 coat 4.0-6.0 mils.

Total Paint system 8.0-12.0 mils.

C. Exterior Exposed Structural Steel, Steel Pipe, Equipment, and Miscellaneous metals.

1. Non-Submerged

1st Coat Tnemec: Series 66 HiBuild Epoxoline 4.0-6.0 mils. DFT

2nd Coat Tnemec: Series 75 Polyurethane, 1 Coat 2.0-3.0 mils. DFT

Total System 6.0 to 9.0 mils DFT

2. Submerged

1st Coat Tnemec: Series 66 HiBuild Epoxoline 3.0-5.0 mils. DFT

2nd Coat Tnemec: Series 66 HiBuild Epoxoline 4.0-6.0 mils. DFT

Total System 8.0 to 12.0 mils DFT

2.05.FINISH APPEARANCE

Paint finishes must be uniform in color, texture, and general appearance. No additional compensation will be made for extra coats required to achieve the required DFT mil thickness, a uniform color, or a uniform appearance.

2.06 MATERIAL PREPARATION

- A. Mix and thin materials according to manufacturer's latest printed instructions.
- B. Do not use materials beyond manufacturer's recommended shelf life.
- C. Do not use mixed materials beyond manufacturer's recommended pot life.

PART 3 - EXECUTION

3.1 PRE-WORK INSPECTION

- A. Examine surfaces to be coated and report conditions that would adversely affect appearance or performance of coating systems and which cannot be put into an acceptable condition by preparatory work specified in Paragraph 3.02.
- B. Do not proceed with surface preparation and application until surface is acceptable or authorization to proceed is given by the Engineer.
- C. Dry film thicknesses of shop-primed equipment will be taken and logged so as to avoid any questions once finish coats are applied.

3.2 SURFACE PREPARATION

- A. General
 - 1. Verify that all surfaces to be coated are dry, clean and free of dust, rust, dirt, oil, grease or other contaminants that would adversely affect the performance of the coatings.
 - 2. Field blast cleaning for all surfaces shall be by dry method unless otherwise directed.

3. Particle size of abrasive used in blast cleaning shall be that which will produce a 1 1/2 - 2 mil (37.5 microns - 50.0 microns) surface profile.
4. Abrasive used in blast cleaning operations shall be new, washed, graded, low silica, and free of contaminants that would interfere with adhesion of coatings and shall not be reused unless specifically approved by the engineer. Copper slag is not allowed.
5. During blast cleaning operations, caution shall be taken to insure that existing coatings are not exposed to abrasion or contamination from blast cleaning.

B. Ferrous Metal - Non-Immersion

Steel Structures Painting Council - Commercial Blast Cleaning (SSPC-SP6).

C. Ferrous Metal - Immersion

1. Steel Structures Painting Council - Near White Blast Cleaning (SSPC-SP10).
2. Slag and weld metal accumulation and spatters not removed by the fabricator, erector or installer shall be removed by chipping and grinding. Weld seams and sharp edges shall be peened or ground as required by the Engineer.

D. Galvanized Metal

Steel Structures Painting Council - Solvent Cleaning (SSPC-SP1).

E. Ductile Iron Pipe

Surface should be clean, dry and free of asphaltic coating.

3.3 APPLICATION

- A. Materials shall be mixed, thinned and applied according to the manufacturer's latest printed instructions.
- B. All weld seams shall receive a brush coat of the specified product thinned, prior to application of the first complete coat.
- C. Touch-up all areas of damages shop primer prior to application of first complete coat.
- D. Make finish coats smooth, uniform in thickness and color, and free of brush marks, laps, runs, dry spray, overspray and skipped or missed areas.

3.4 INSPECTION

- A. Request acceptance of surface preparation by the Engineer prior to applying the first coat.
- B. Request acceptance of each coat before applying next coat.
- C. Correct work that is not acceptable under the requirements of this contract, and request re-inspection.

3.5 CLEANING

- A. Remove paint spatters from adjoining surfaces not scheduled to be painted.
- B. Repair damage to coatings or surfaces caused by cleaning operations.
- C. Remove debris from job site and leave storage areas clean.

3.6 PAINTING SCHEDULE

A. Proposed Construction

All new construction and equipment be painted, unless otherwise indicated. Colors shall be as selected by the Owner.

Infratec Consultants, Inc.

The following color scheme shall be used on all piping. The color of piping not listed below shall be selected from the color chart supplied by the manufacturer.

Potable Water

Dark Blue

End of Section

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SECTION 13412
ELEVATED STORAGE TANK 1

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor shall be responsible for all labor, materials and equipment necessary for the design, fabrication, construction, painting, disinfection and testing of an elevated welded carbon steel water storage tank supported by a steel support pedestal, commonly referred to as a "Spheroid or Pedesphere".
- B. Design and construction of the elevated tank shall conform to all requirements of AWWA D100-latest edition Standard for Welded Carbon Steel Tanks for Water Storage, except as modified by the requirements of these contract documents.
- C. The Contractor shall obtain all necessary permits and licenses required for the construction of the elevated water tank.

1.2 SUBMITTALS

- A. Submit to the Owner's Consultant, in accordance with the Division 1, copies of all materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. A list of five similar elevated tanks constructed within the last ten years including the Owner, tank capacity and the Engineer.
 - 2. A foundation design drawing showing design and dimensions of the concrete and reinforcing steel. The drawings and calculations must be designed by and bear the stamp of a professional engineer registered in the State of Georgia.
 - 3. The Contractor shall provide Drawings and design calculations for the elevated steel tank. Drawings shall show the size and location of all structural components and reinforcement, the required strength and grade of all materials, and the size and arrangement of principle piping and equipment. The drawings and calculations shall bear the certification of a professional Engineer licensed in the State of Georgia. The design coefficients and resultant loads for snow, wind and seismic forces, and the methods of analysis shall be documented.
 - 4. OSHA approved climbing equipment.
 - 5. Tank accessories.
 - 6. Lightening protection.
- B. Test Reports
 - 1. Shop test results.
 - 2. Field pressure /leakage tests.
 - 3. Independent visual and x-ray seam reports.
- C. Certificates

1. Prior to shipment, submit a certified affidavit of compliance from the manufacturer that the tank has been manufactured in accordance with AWWA and ASTM standards and requirements specified herein.

1.3 REFERENCE STANDARDS

- A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.
- B. American Water Works Association (AWWA)
 1. AWWA D100-latest edition - Standard for Welded Steel Tanks for Water Storage.
 2. AWWA D102 - Standard for Painting Steel Water Storage Tanks.
 3. AWWA C652 - Standard for Disinfection of Water Storage Facilities.
- C. American Welding Society
- D. NSF (National Sanitation Foundation) 61 - Materials in contact with Potable Water.
- E. Steel Structures Painting Council Manual - Volume 1 - Good Painting Practice.
- F. Steel Structures Painting Council Manual - Volume 2 - Systems and Specifications.
- G. ACI 318 - Building Code Requirements for Reinforced Concrete
- H. ACI 301 – Standard Specification for Structural Concrete
- I. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.4 QUALITY ASSURANCE

- A. All products specified under this Section shall be standard products of proven ability as manufactured by competent organizations that are fully experienced, reputable and qualified in the manufacture of the products to be furnished. The products shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
- B. All products furnished under this Section shall be new and unused and shall be the standard products of manufacturers having a successful record of manufacturing and servicing the equipment specified herein for a minimum of five (5) years.
- C. Pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured.
- D. The Owner's Consultant may also make inspection of products after delivery. Products shall be subject to rejection at any time due to failure to meet any of the Specification requirements, even though submittal data may have been accepted previously. Products rejected after delivery shall be marked for identification and shall be removed from the job site at once.

PART 2 – PRODUCTS

2.1 GENERAL

- A. The materials, design, fabrication, erection, welding, testing and inspection of the steel tank shall be in accordance AWWA D100-latest edition

- B. The tank foundation shall be designed in accordance with AWWA D100-latest edition and ACI 318.
- C. The elevated steel water tank shall consist of a pedisphere tank with the following characteristics:
 - 1. The design operating capacity of the storage tank will be 250,000 gallons.
 - 2. The capacity of the tank, low to high water level, shall be contained within a maximum operation range from 30 feet to 32 feet plus or minus 2.5 feet.
 - 3. The height of the tank, top of foundation to the high water level shall be 155 feet.
 - 4. The top of the foundation shall be at elevation 1190.0 feet-msl.
- D. The following factors shall be used for the design of seismic loads and shall be in accordance with AWWA D100-latest edition:
 - 1. Seismic Zone 2A
- E. Wind pressure shall be determined in accordance with AWWA D100-96 (latest edition), Section 3.1.4 for a 100 MPH wind velocity.
- F. Snow Load shall be determined in accordance with AWWA D100-96 (latest edition), Section 3.1.3 for 25 psf minimum loading.
- H. A geotechnical investigation has been conducted for this report and is included in Section 02010 of the specifications.
- G. The minimum thickness for any part of the structure shall be 3/16 inch for parts not in contact with water and ¼ inch for parts in contact with water, including the roof plates. All portions of the tank including the roof shall be of watertight construction.

2.2 TANK ACCESSORIES

- A. The following accessories shall be provided in accordance with these specifications. All items shall be in full conformity with the current applicable OSHA safety regulations and the operating requirements of the structure.
- B. Ladders
 - 1. Access ladders shall be included at the following locations:
 - a. The tower ladder shall extend from grade to upper platform and from upper platform to tank floor manhole. Upper platform to steel tank roof mounted on access tube interior.
 - b. Exterior of access tube to provide access from roof manhole to the tank floor.
 - 2. Ladder side rails shall be a minimum 3/8 inch by 2 inches with a 16 inch clear spacing. Rungs shall be not less than 3/4 inch, round or square, spaced at 12 inch centers. The surface of the rungs shall be knurled, dimpled or otherwise treated to minimize slipping. At platforms or landings, the ladder shall extend a minimum 4 feet above the platform. Ladders shall be secured to adjacent structures by brackets located at intervals not exceeding 10 feet. Brackets shall be of sufficient length to provide a minimum distance of 7 inches from the center of the rung to the nearest permanent object behind the ladder.
 - 3. Ladders shall be equipped with a fall arrest system meeting OSHA regulations. The system shall be supplied complete with a safety harness, locking mechanisms, lanyards

and accessories for two persons. The safety harness equipment shall be supplied at the start of the project and turned over to the Engineer.

C. Upper Platform

1. An upper platform shall be located at the top of the support pedestal to provide access from the pedestal ladder to the roof access ladder located on the interior of the access tube. Platform shall include a 24" x 36" access hatch with opening to allow ladder and safety device to continue 48" minimum above the platform floor.
2. A roof handrail shall be provided surrounding the roof manholes, vents, and other roof equipment. Handrail shall comply with OSHA requirements.

D. Roof Hatches

1. Provide two access hatches on the roof of the tank. One hatch shall be 30 inch diameter and allow access from the roof to the interior of the tank. The hatch will be hinged and equipped with a hasp for locking. The hatch cover shall have a 2 inch downward edge. The second hatch will be 24 inch diameter and flanged with a removable cover so constructed that an exhaust fan may be connected for ventilation during painting operations. The openings shall have a minimum 4 inch curb.
2. Provide one 30 inch diameter hinged access hatch on the access tube roof. The hatch cover shall have a 2 inch downward edge.

E. Tank Vent

1. The tank vent should be centrally located on the tank roof above the maximum weir crest elevation. The tank vent shall have an intake and relief capacity sufficiently large that excessive pressure or vacuum will not develop during maximum flow rate. The vent shall be designed, constructed and screened so as to prevent the ingress of wind driven debris, insects, birds and animals. The vent shall be designed to operate when frosted over or otherwise clogged. The screens or relief material shall not be damaged by the occurrence and shall return automatically to operating position after the blockage is cleared.

F. Tank Floor Manhole

1. A minimum 18 x 24 inch elliptical access manhole shall be provided in the tank bottom accessible from the upper platform or from a ladder that extends from the platform to the opening. The hatch shall open inward.

G. Pedestal Hatch

1. A 24" diameter manhole shall be located near the top of the pedestal for access to the exterior painter's rail located near the tank/pedestal interface. This opening shall be accessible from the upper pedestal platform.

H. Access Tube

1. A minimum 36" diameter access tube shall be provided for tanks with capacities of 150,000 gallons and less, or 42" diameter access tube on tanks with capacities 200,000 gallons and greater. The access tube will be provided from the top of the pedestal to the tank roof.

I. Rigging

1. Interior and exterior rigging devices shall be provided for painting, inspecting and maintaining the structure and accessories. A continuous bar or tee rail near the top of the exterior support structure shall be provided. The rail may be attached to the support column or steel tank. A painter's rail attached to the roof, pipe couplings with plugs in the

roof or other attachments that provide complete access for painting of tank interior shall be furnished.

J. Piping

1. General

Exterior of pipes exposed to stored water shall be coated with tank interior wet system. Exterior of pipes in the pedestal and base cone shall be coated with tank interior dry system.

2. Inlet/Outlet Piping

Provide a 12 inch diameter standard weight steel inlet/outlet pipe that extends vertically from the base of the pedestal to the bottom of the tank. An expansion joint shall be provided in the vertical section of pipe. The expansion joint should be constructed to accommodate any differential movement caused by settlement or thermal expansion and contraction. Inlet/Outlet pipe shall not extend above the LWL.

3. Overflow

The overflow pipe shall be designed to carry the maximum design flow rate of 350 GPM. The steel overflow pipe will be 8 inch in diameter and shall have a minimum wall thickness of ¼". A suitable weir shall be provided with the crest at High Water Level. The overflow pipe shall extend down from the weir box through the tank, pedestal, and base cone. The overflow pipe shall penetrate the base cone wall approximately 1 to 2 feet above grade and discharge onto a concrete splash pad. The point of discharge shall have a 45 degree elbow and be equipped with a stainless steel screened end.

K. Interior Floor

1. A concrete slab-on-grade shall be provided inside the base cone. Isolation joints shall be provided at junctions with walls, columns, equipment or piping foundations.

L. Personnel Door

1. A 36" by 80" access door with a flush threshold shall be located in the base of the pedestal cone. A step over threshold is not acceptable. The door shall be fabricated from steel plate with adequate stiffening and specifically designed for use with the tank. The access door will be equipped with handle, drip cover and dead bolt lock. Commercial hollow metal doors and frames are not acceptable

M. Identification Plate

1. A tank identification plate shall be mounted on the tank riser pipe above the access manhole. The identification plate shall be corrosion resistant and contain the following information.
 - a. Tank Contractor
 - b. Contractor's project or file number
 - c. Tank capacity
 - d. Height to High Water Level
 - e. Date erected
 - f. Tank Owner

PART 3 - EXECUTION

3.1 GENERAL

- A. The erection of the steel tank shall comply with the requirements of Section 10 of AWWA D100-latest edition.
- B. All interior lap joints shall be sealed by means of continuous seal welding (not caulking).

3.2 WELDING

- A. All shop and field welding shall conform to AWS and AWWA D100-latest edition, Section 10. Before any welding is performed, the constructor shall make certain that the welders or welding operators have their credentials for acceptance.

3.3 FABRICATION

- A. All fabrication and shop assembly shall conform to the requirements of AWWA D100-latest edition, Section 9, Shop Fabrication.

3.4 ERECTION

- A. Plates subjected to stress by the weight or pressure of the contained liquid shall be assembled and welded in such a manner that the proper curvature of the plates in both directions is maintained. Plates shall be assembled and welded together by a procedure that will result in a minimum of distortion from weld shrinkage.

3.5 TESTING

- A. Testing for both shop and field welds shall be in accordance with AWWA D100-latest edition, Section 11, Inspection and Testing. All testing shall be performed prior to interior and exterior field painting. The testing shall be performed by an independent testing agency with all costs included in the Contractor's bid and paid by the Contractor. The Contractor shall have a third-party weld inspection performed including both at visual and a radiograph inspection per Section 11 of AWWA D100-latest edition.

- B. Paint Inspection and Testing

The Contractor shall have a third-party paint inspection and testing performed at times and locations in the presence of the Owner or Engineer. Before the primer coating is applied, verify that the required surface preparation parameters as outlined in AWWA D102-latest edition have been satisfied. The wet film thickness of each coat shall be measured during application. Before application of successive coats, the dry film thickness shall be measured for compliance. The dry film thickness of the total system shall be measured in accordance with SSPC-PA 2. The required number of measurements for conformance to a thickness specified shall conform to Section 8 and SSPC-PA 2 and shall be determined between the Contractor and Owner/Engineer prior to any painting activities. For inside coating systems, the coating on interior wet surfaces below the top capacity level shall be tested and identified in accordance with NACE SP0188. Locations where holiday are detected shall be retested after repair work has been completed. Results of quality control test and records shall be provided to the Owner or Engineer at the end of each testing period. An affidavit of Compliance shall be provided at the end of the project. First-anniversary inspection shall be conducted by the Contractor to determine whether the coating system is performing properly. All areas failing shall be repaired by the Contractor.

3.6 PAINTING

- A. Surface preparation and coating of all steel surfaces shall be in accordance with Section 09800 "Coating System for Steel Water Storage Tanks".

- B. The tank manufacturer shall include a two logos painted on the sides of the bowl consisting of "City of Flowery Branch" along with their "symbol". The Owner will furnish a jpeg of the compete logo and assign the sides for the logo during the shop drawing period. The Contractor shall submit logo painting details including actual size and methods for review.

3.7 DISINFECTION

- A. Upon testing and painting, the tank and all connecting piping shall be flushed and disinfected prior to being put into service. Disinfection shall be in accordance with AWWA C-652.
- B. Only potable water shall be used as the water supply during disinfection operations.
- C. The Contractor shall use either high-test calcium hypochlorite, sodium hypochlorite solution or liquid chlorine for disinfection. The Contractor shall notify the Engineer prior to disinfection of the storage facility on what form of chlorine shall be used.
- D. One of the following methods shall be used for disinfection of the elevated water tank. The Contractor shall notify the Engineer prior to disinfection which method of disinfection shall be used as outlined in AWWA C-652, Section 4.
 - 1. First Method: After the storage tank has been thoroughly dried, it shall be filled slowly to the overflow level with potable water to which enough chlorine is added to provide a free chlorine residual in the full facility of not less than 10mg/L at the end of the 24-hour period. After the 24-hour retention period, the highly chlorinated water in the storage tank shall be completely emptied (by applying a reducing agent to the wasted water to thoroughly neutralize the chlorine residual in the water), and then refilled with potable water. After refilling, samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 -3 -5, before the tank is placed in or restored to regular service.
 - 2. Second Method: The walls and bottoms of storage tanks shall be thoroughly cleaned to remove all dirt and loose material. A strong chlorine solution (at least 200mg/L) shall be applied to the surface of all parts of the storage facility, including the inlet and outlet piping, that would be in contact with water when the storage facility is full to the overflow elevation. The disinfected surfaces shall remain in contact with the strong chlorine solution for at least 30 minutes, after which potable water shall be admitted. After that, the highly chlorinated water in the tank shall be disposed in an acceptable manner, as stated above, and then refilled with potable water to its overflow level. After refilling, samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 - 3 – 5, before the tank is placed in or restored to regular service.
 - 3. Third Method: Water containing a minimum of 50mg/L chlorine shall be placed in the storage tank to such depth that, when the storage tank is filled with potable water to the overflow level and held full for a period of at least 24 hours, there will be a free chlorine residual of not be less than 2 mg/L. The full storage tank must be allowed to stand for 24 hours. All highly chlorinated water shall then be purged from the drain piping. Samples of water shall be taken from the storage tank and tested to demonstrate that the water in the tank is microbiologically satisfactory in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391 – 3 5. The storage tank may be put into service without draining the remaining water in the tank.

3.8 CONCRETE FOUNDATION

- A. A Geotechnical investigation has been carried out at the site and a copy of the report is included with the Contract Documents. Recommendations for the foundation and allowable bearing capacities are defined in this report. The Owner shall retain the services of the Geotechnical consultant to verify the adequacy of the bearing stratum after the Contractor has carried out the excavation and before any concrete or reinforcement is placed. The concrete foundation shall be designed by the Contractor based upon the recommendations in the geotechnical report. The report must provide the allowable soil bearing pressure with appropriate factors of safety, the active and passive earth pressure coefficients, the angle of soils internal friction, its cohesion, unit weight and recommendations for bearing depth and backfill requirements.
- B. The foundation shall be designed and constructed to safely and permanently support the structure. The basis of the foundation construction shall be consistent with the soils investigation data included herein of these specifications. Appropriate changes to construction schedule and price will be negotiated if, during excavation, soil conditions are encountered which differ from those described in geotechnical report. The concrete foundation shall be constructed in accordance with ACI 301. Minimum concrete compressive strength shall be as specified in Section 03000 "Cast-In-Place Concrete".

3.8 PRODUCT GUARANTEE

- A. The tank Contractor shall guarantee its work for a period of three years from the substantial completion date defined in the contract documents to the extent that it will repair any defects caused by faulty design, workmanship or material furnished under the specifications.
- B. All guarantees obtained by the tank Contractor from the manufacturer or installer of paint, equipment or accessories not manufactured by tank Contractor shall be obtained for the benefit of the Purchaser.

END OF SECTION 13412

SECTION 15060
DUCTILE IRON PIPE AND FITTINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. The Contractor shall furnish, install, test and place in satisfactory service all ductile iron pipe, ductile iron pipe fittings, wall pipes and sleeves, special fittings, gaskets, bolts and accessories and all comparable cast iron fittings at the locations specified, shown on the Drawings or as otherwise directed by the Owner's Consultant. The piping shown on the drawings is intended to define the general layout, configuration, routing, method of support, pipe size and pipe type. The drawings are not pipe construction or fabrication drawings. It is the Contractor's responsibility to develop the details necessary to construct all mechanical piping systems, to accommodate the specific equipment provided, and to provide and install all supports, spools, spacers, adapters, connectors, and other appurtenances for a complete and functional system as specified herein.

1.2 SUBMITTALS

- A. Submit to the Owner's Consultant, in accordance with the Division 1, copies of all materials required to establish compliance with this Section. Submittals shall include at least the following:
 - 1. Piping layout in full detail.
 - 2. Location and types of pipe restraints, thrust blocks, or other devices to prevent movement, vibration, and/or joint separation.
 - 3. Schedule of pipe, fittings, special castings, couplings, expansion joints, restrained joints, and other appurtenances.
 - 4. Product data on pipe fittings, couplings, harnesses, expansion joints, gaskets, fasteners, and other accessories.
 - 5. Brochures and technical data on coatings and linings and proposed method of application and field touch-up.
- B. Test Reports
 - 1. Shop test results.
 - 2. Field pressure /leakage tests.
- C. Certificates
 - 1. Prior to shipment, submit a certified affidavit of compliance from the manufacturer that the pipe, fittings, gaskets, linings, and exterior coatings have been manufactured in accordance with AWWA and ASTM standards and requirements specified herein.

1.3 REFERENCE STANDARDS

- A. Design, manufacturing and assembly of elements of the products herein specified shall be in accordance with the standards of the below listed organizations.

- B. American Water Works Association (AWWA)
 - 1. AWWA C104 – Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
 - 2. AWWA C151 – Ductile-Iron Pipe, Centrifugally Cast, for Water and Other Liquids.
 - 3. AWWA C153 – Ductile-Iron Compact Fittings 3-in. through 64-in. (76-mm through 1,600-mm) for Water Service
 - 4. AWWA C600 – Installation of Ductile-Iron Water Mains and Their Appurtenances.
- C. American National Standards Institute (ANSI)
 - 1. ANSI A21.4 – Cement-Mortar Lining for Ductile-Iron and Gray –Iron Pipe and Fittings for Water.
 - 2. ANSI A21.11 – Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe Fittings.
 - 3. ANSI A21.50 – Thickness Design of Ductile-Iron Pipe.
 - 4. ANSI A21.51 – Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand Lined Molds, for Water and Other Liquids.
 - 5. ANSI A21.53 – Ductile-Iron Compact Fittings 3-in. through 12-in. for Water and Other Liquids.
 - 6. ANSI A16.1 – Cast Iron Pipe Flanges and Flanged Fittings.
 - 7. ANSI B16.21 – Non-Metallic Flat Gaskets for Pipe Flanges.
- D. Where reference is made to a standard of one of the above, or other organizations, the version of the standard in effect at the time of bid opening shall apply.

1.4 QUALITY ASSURANCE

- A. All products specified under this Section shall be standard products of proven ability as manufactured by competent organizations that are fully experienced, reputable and qualified in the manufacture of the products to be furnished. The products shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed.
- B. All products furnished under this Section shall be new and unused and shall be the standard products of manufacturers having a successful record of manufacturing and servicing the equipment and systems specified herein for a minimum of five (5) years.
- C. Pipe and fittings shall be inspected and tested at the foundry as required by the standard specifications to which the material is manufactured. All pipe within this section shall be manufactured within the United States, fittings may be foreign or domestic.
- D. The Owner's Consultant may also make inspection of products after delivery. Products shall be subject to rejection at any time due to failure to meet any of the Specification requirements, even though submittal data may have been accepted previously. Products rejected after delivery shall be marked for identification and shall be removed from the job site at once.
- E. All pipe and fittings shall be permanently marked with the following information:
 - 1. Manufacturer.
 - 2. Date.

3. Size, Type, Class or Wall Thickness.
4. Standard to which produced (AWWA, ASTM, etc.)

1.5 DELIVERY, STORAGE AND HANDLING

- A. Reference is made to Division 1 for additional information.
- B. Packing and Shipping
 1. Care shall be taken in loading, transporting and unloading to prevent damage to the pipe, appurtenances, or coatings. The pipe shall not be dropped or skidded against each other. Lined pipe and fittings shall be handled from the outside. No forks, chains, straps, hooks, etc. shall be placed inside the pipe for lifting, positioning or laying.
 2. The interior of all pipe, fittings and other appurtenances shall be kept free from dirt or other foreign matter at all times.
- C. Storage and Protection
 1. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tier shall be kept off the ground on timbers, rails, or concrete. Stacking shall conform to manufacturers recommendations.
 2. Gaskets for mechanical and push-on joints to be stored shall be placed in a location out of direct sunlight. Gaskets shall not come in contact with petroleum products and be used on a first-in, first-out basis.

1.6 SHOP PAINTING

- A. Unless otherwise specified herein, all ductile iron pipe and fittings and cast iron fittings shall be cleaned and provided with a bituminous coating and cement lining applied at the factory for buried service or coated per Section 09902 for exposed piping to be painted.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Ductile iron pipe and fittings shall conform to the referenced standards and specifications. All ductile iron pipe and special fittings will be subject to inspection and approval by the Owner's Consultant after delivery. Broken, cracked, misshapen, imperfectly coated, or otherwise damaged or unsatisfactory pipe or fittings shall not be used.
- B. Unless otherwise shown on the Drawings or directed by the Owner's Consultant, Ductile iron pipe shall have a minimum pressure rating in accordance with Pressure class 350 for sizes 24 inches and less and shall conform to the requirements of AWWA C151.

2.2 DUCTILE IRON PIPE

- A. Design
 1. All water and wastewater pressure pipe shall be standard cement lined in accordance with ANSI A21.40 (AWWA C110) and sealed with an approved bituminous seal coat in accordance with ANSI A21.51 (AWWA C151). Interior service ductile iron pipe shall be coated with a paint primer. Piping inside water tanks shall be coated per 13412-5.

2. All wastewater and water applications shall utilize a plain rubber (Styrene Butadiene Copolymer) gasket unless noted otherwise.

B. Pipe Joints

1. Mechanical Joints

- a. Mechanical joints shall consist of a bolt joint of the stuffing box type as detailed in ANSI A21.10 and described in ANSI A21.11 (AWWA C111)
- b. Mechanical joints shall be thoroughly bolted in accordance with the manufacturer's recommendations with Tee Head Bolts and bolts of high strength, heat treated cast iron containing 0.50 copper or high strength low-alloy steel having a minimum yield point strength of 40,000 pounds per square inch and an ultimate tensile strength of 70,000 pounds per square inch.
- c. Gaskets, bolts and nuts shall conform to ANSI A21.11. Gasket material shall be of neoprene or rubber of such quality that they will not be damaged by the liquid or gases with which they will come in contact with.
- d. Glands shall be of high strength cast iron.

2. Flanged Joints

- a. Flanged joints shall conform to ANSI B16.1, Class125 and in accordance with Table 10.23 of ANSI A21.10
- b. Flanged joints shall be bolted with through stud or tap bolts of required size as directed. Bolts and nuts shall conform in dimensions to the American Standard heavy series. Nuts shall be hexagonal, cold pressed. After each joint has been made, all bolts heads and nuts shall be coated with 2 coats of heavy asphaltum or other approved coating.
- c. Gaskets of "Cranite," red rubber, or other approved quality shall be used in all flanged joints. Gaskets shall conform to the requirements of ANSI B16.21.
- d. Flanged ductile iron pipe approximately 12 inches or less in length shall have flanges cast solidly to the pipe barrel. Flanges on ductile iron pipe longer than 12 inches may be of the screw type. Pipe threads shall be of such length that with flanges screwed home; the end of the pipe shall project beyond the face of the flange. Flange pipe shall then be machined to give a flush finish to the pipe and the flange and surface shall be normal to the axis of the pipe. Ductile iron flanges shall be of such design that the flange neck completely covers the threaded portion of the pipe to protect the same against corrosion. Flange faces on cast iron fittings shall be coated with white lead immediately after they have been faced and drilled. All pipe with screw type flanges shall be assembled, faced and drilled at the point of manufacture, unless approved by the Owner's Consultant.
- b. Where tap or stud bolts are required, flanges shall be drilled and tapped accordingly.

3. Push-On-Joints

- a. Push-on-joints shall conform to ANSI A21.11. Details of the joint design shall be in accordance with the manufacturer's standard such as "Fastite," "Bell-Tite," Or "Tyton" joints.
- b. Gaskets shall be in accordance with ANSI A21.11 and shall be of such quality that they will not be damaged by the liquid or gases with they will come in contact with.

4. Restrained Joints

- a. Restrained joints shall meet all requirements of ANSI/AWWA C110/A21.10. Joints shall be pressure rated for a minimum of 250 psi. Restrained joints may be American "Flex- Ring" or "Fast-Grip", US Pipe "TR Flex" or "Field Lok", or MEGALUG as manufactured by "EBAA Iron, Inc" (Unless specifically called out for on the plans).

2.3 PIPE FITTINGS

- A. All fittings shall conform in every respect to ANSI A21.53, 3 inches through 64 inches for water services.
- B. Unless otherwise shown on the Drawings, directed or specified, all fittings shall have a minimum working pressure rating of 250 psi.
- C. In general, flanged fittings shall be ANSI pattern using short radius elbows. Design of all fittings, whether long or short pattern, shall be as indicated or dimensioned on the Drawings. Special fittings and ductile iron wall pipes and sleeves shall conform to the dimensions and details shown on the Drawings.
- D. All buried pipe fittings shall use mechanical joints unless otherwise shown on the Drawings.

2.4 PIPE COUPLINGS

- A. Pipe couplings shall be installed where shown on the Drawings, required for installation, or directed by the Owner's Consultant.
- B. Pipe couplings shall conform to requirements of the Division 15 of these specifications.

PART 3 - EXECUTION

3.1 PIPE LAYING AND INSTALLATION

- A. Excavation and backfilling of trenches shall conform to the requirements of Division 2.
- B. Installation of ductile iron pipe in underground pressure piping systems shall conform to the requirements of AWWA C600. Unless otherwise indicated on the Drawings, underground piping shall have a minimum cover of 48 inches or a minimum of 48 inches below the edge of pavement, whichever is lower. Permission must be granted by the Engineer to vary from this requirement. Trench widths must be no less than the pipe diameter plus 24 inches.
- C. Proper and suitable tools and equipment for the safe and convenient handling and laying of pipe shall be used; great care shall be taken to prevent pipe coatings or wrappings from being damaged, particularly the cement interior linings. All pipe shall be carefully examined for cracks and other defects, and no pipe or fittings shall be laid which are known to be defective. If pipe or fittings are cracked, broken or defective after being laid, they shall be removed and replaced with sound material, at no additional expense to the Owner. All pipe and fittings shall be thoroughly cleaned before being laid, and shall be kept clean until accepted in the completed work. Pipeline alignment and gradient shall be straight or shall follow true curves as near as is practicable.
- D. Excavation, cleaning, laying, jointing, and backfilling shall be kept up as closely as is possible so as to progress the work in a uniform workmanlike manner. In no case shall pipe be left in the trench overnight without completing the jointing. The completed pipeline shall not be left exposed in the trench unnecessarily; the Contractor shall backfill and compact the trench as

soon as is possible after laying and jointing is completed. Each day at the close of work, at all times when laying is not in progress, the exposed end of the pipeline in the trench shall be closed with an approved bulkhead of wood or metal. If at any time it becomes necessary to cover the end of an uncompleted pipeline with backfill, the end of that pipe shall be closed with a mechanical joint plug.

- E. The Contractor shall clean each joint of pipe while it is suspended before it is lowered into the trench. The Contractor shall keep exposed ends of pipe properly plugged during laying to prevent dirt and other materials from entering the line, and shall, before the system is accepted, thoroughly clean all times.
- F. Ductile iron pipe and fittings, indicated on the Drawings to be encased in concrete shall be encased in Class "B" concrete. Pipe and fittings to be encased in concrete shall be properly supported on pre-cast concrete saddles. All pipe passing through wall sleeves shall be caulked watertight with lead or a mechanical sealing device approved by the Owner's Consultant.
- G. Interior ductile iron piping systems shall be furnished and installed, complete, as indicated on the Drawings, as specified or as required for proper operation of equipment.
- H. Pipeline alignment and gradient shall be straight or shall follow true curves as near as is practicable.
- I. Sufficient couplings and flanged joints shall be provided to facilitate equipment installation and removal.
- J. All ductile iron pipe installed under buildings or basins shall be encased in Class B concrete. The size of the encasement concrete shall be a minimum of 6 inches larger than the outside diameter of the pipe.

3.2 JOINTING

A. Mechanical Joints

1. Successful operation of the mechanical specified requires that the spigot be centrally located in the bell and that adequate anchorage shall be provided where abrupt changes in direction and dead ends occur.
2. Surfaces with which the gasket comes in contact shall be brushed thoroughly with a wire brush just prior to assembly to remove all loose rust or foreign material which may be present and to provide clean surfaces which shall be brushed with a liberal amount of soapy water or other approved lubricant just prior to slipping the gasket over the spigot end and into the bell. Lubricant shall be brushed over the gasket prior to installation to remove loose dirt and lubricate the gasket as it is forced into its retaining space.
3. Joint bolts shall be tightened by the use of approved wrenches and to a tension recommended by the pipe manufacturer. When tightening bolts, it is essential that the gland be brought toward the pipe flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. This may be done by partially tightening the bottom bolt first, then the top bolt, next the bolts at either side last, the remaining bolts. This cycle shall be repeated until all bolts are within the range of acceptable torques. If effective sealing is not attained at the maximum torque indicated above, the joint shall be disassembled and reassembled after thorough cleaning. Overstressing of bolts to compensate for poor installation shall not be permitted.
4. After installation, bolts and nuts in buried or submerged piping shall be given 2 heavy coats of a bituminous paint.

B. Flanged Joints

1. All flanges shall be true and perpendicular to the axis of the pipe. Flanges shall be cleaned of all burs, deformations, or other imperfections before joining. Flanged joints shall be installed so as to ensure uniform gasket compression. All bolting shall be pulled up to the specified torque sequence. Where screwed flanges are used, the finished pipe edge shall not extend beyond the face of the flange, and the flange neck shall completely cover the threaded portion of the pipe.
2. Connections to equipment shall be made in such a way that no strain is placed on the equipment flanges. Connecting flanges must be in proper position and alignment and no external force may be used to bring them together properly.

C. Push-On Joints

1. The inside of the bell and the outside of the pipe from the plain end to the guide stripe must be wiped clean immediately before assembling the pipe joint. Then the rubber gasket shall be inserted into a groove or shaped recess in the bell. Both the bell and spigot ends to be joined shall be wiped again to ensure they are thoroughly clean. A liberal coating of special lubricant furnished by the pipe manufacturer shall be applied to the outside of the pipe from the plain end to the yellow guide stripe and to the inside of the gasket. The plain end shall be centered in the bell and the spigot pushed home. Whenever possible the pipe shall be socketed by hand; however, jacking may be required to push the spigot in place on the larger sizes of pipe. The completed joint shall be permanently sealed and watertight.
2. Whenever the pipe is cut in the field, the cut end shall be conditioned so it can be used in making up a joint by filing or grinding the cut end to remove burrs or sharp edges that might damage the gasket.

D. Permissible Deflection of Joints

1. Deflection of ductile iron pipe at joints for long radius curves or for avoiding obstacles shall be permitted only upon approval of the Owner's Consultant.
2. Where deflection of joints is permitted, such deflection shall be made in accordance with and shall not exceed limits provided in Section 9b.5 and Section 9c.4 as applicable, of AWWA C600.

E. Joints of Dissimilar Metals

1. When a flanged joint consists of ductile iron flange mated to a steel or alloy flange, the steel flanges shall be flat faced and furnished with full-faced gaskets, insulating bushings and stainless steel bolts.

F. Restrained joints

1. Assembly of restrained joints varies depending on the type of joint used. Assembly shall be in strict accordance with joint manufacturer's recommendation.

3.3 FIELD TESTING

- A. Pressure pipe lines shall be subject to hydrostatic pressure leakage tests at a pressure of 1.5 times the maximum field working pressure of the pipeline. The pressure shall be maintained for a minimum of two hours. Test Pressure shall not vary by more than ± 5 psi for the duration of the test. Procedures shall conform to AWWA C600, except as otherwise specified herein. Testing shall be made in the presence of the Owner's Consultant.
- B. All piping shall be securely anchored and restrained against movement prior to application of

test pressures. Prior to the pressure test, pipe laid in trenches shall be fully backfilled during the test, and all air shall be expelled from all pipes. All joints, fittings, and valves will be left open where possible.

- C. After satisfactory completion of the pressure test, (all pressure piping) shall be leak tested. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe or any valved section therefore to maintain pressure within 5 psi of the specified test pressure after the pipe has been filled with water and the air has been expelled. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{ND\sqrt{P}}{10,000}$$

L= Allowable Leakage in Gallons per hour

N= The Number of Joints in the section of pipe tested

D= The normal diameter of the pipe in inches

P= The average test pressure during the leakage test in pounds per square inch gauge

- D. Any leakage developing during the test in excess of the allowable leakage shall be corrected at the Contractor's expense by tightening, replacing packing of gaskets, or replacing defective portions of the piping system. Caulking will not be permitted. If the defective portion cannot be located, the Contractor at his expense, shall remove and reconstruct as much of the original work as necessary to obtain a system without leakage.
- E. After all tests on any section have been completed to the satisfaction of the Owner's Consultant, the Contractor shall carefully clean, blow out, and drain the line of all water to prevent freezing. The Contractor shall also demonstrate to the satisfaction of the Owner's Consultant that any and all lines are free from obstructions and foreign material.
- F. The Contractor shall bear the complete cost of the tests, including set-up, labor, temporary piping, blocking, gauges, bulkheads, water, air, soap solutions, and other materials required to conduct the tests.

3.4 DISINFECTION

- A. All ductile iron pipe used for potable water shall be subject to disinfection upon leakage testing and after all necessary repairs have been made. The lines shall be flushed clean and then disinfected in strict accordance with AWWA Standard For Disinfecting Water Mains, C651, latest revision, subject to the following special conditions:
1. The method of disinfection shall be the Continuous – Feed Method as per AWWA C651, latest revision, Section 5.2. The potable water shall be chlorinated so that after a 24 hour holding period in the main, there will be a free chlorine residual of not less than 10 mg/l at all points in the system when tested with a standard orthotolindine solution.
 2. The form of chlorine shall be a 1 percent solution made from either sodium hypochlorite or calcium hypochlorite which shall be measured and pumped into the pipeline. Water must be flowing during the feeding operation and the injection point must be located so that the flow of water will disperse the chlorine throughout the pipeline. AWWA C651 requires the injection point be located at a point not more than 10 feet from the point of connection to the existing water supply. The chlorine should be fed at a constant rate such that the water will have not less than 25 mg/l free chlorine. The following table gives the amount of chlorine required for each 100 feet of pipe of various diameters to produce a 25 mg/l

concentration.

Chlorine Tabulation

Pipe Diameter (in.)	100% Chlorine (lb.)	1% Chlorine Solution (gal.)
6	0.030	0.36
8	0.054	0.65
10	0.085	1.02
12	0.120	1.44
16	0.217	2.60

3. After 24 hours, the line shall be flushed until the chlorine content is not more than 2.0 parts per million. When this step is completed, the Contractor shall employ a recognized testing laboratory who will submit the test results to the Owner. If the samples show evidence of contamination upon testing, the above procedure of disinfection shall be repeated until approved samples are obtained. No connections shall be made to the existing system until all of the samples have been tested and approved by the system Owner.
4. The Contractor has the option of discharging the highly-chlorinated water being flushed from the pipeline to the existing sewers (if available) or to open areas where the discharge will not damage the roadbed or adjacent property. Dechlorinating water prior to discharge is required. The area where the chlorinated water is to be discharged shall be inspected. If there is any possibility that the chlorinated discharge will cause damage to the environment, then a neutralizing chemical shall be applied to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. The highly chlorinated water shall not be discharged near any streams, ponds, lakes or other bodies of water without being chlorinated.
5. The chlorine residual of water being disposed may be neutralized by treating the water with one of the chemicals listed in the table below:

Chemical Required

Residual Chlorine Concentration	Sulfur Dioxide (SO ₂)	Sodium Bisulfate (NaHSO ₃)	Sodium Sulfite (Na ₂ SO ₃)	Sodium Thiosulfate (Na ₂ S ₂ O ₃ ·5H ₂ O)
mg/l	lb (kg)	lb (kg)	lb (kg)	lb (kg)
1	0.8 (0.36)	1.2 (0.54)	1.4 (0.64)	1.2 (0.54)
2	1.7 (0.77)	2.5 (1.13)	2.9 (1.32)	2.4 (1.09)
10	8.3 (3.76)	12.5 (5.67)	14.6 (6.62)	12.0 (5.44)
50	41.7 (18.9)	62.6 (28.39)	73.0 (33.11)	60.0 (27.22)

Amounts of chemicals required to neutralize various residual chlorine concentrations in 100,000 gal (378.5 m³) of water**END OF SECTION 15060**

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