

# City of Norcross

*65 Lawrenceville Street  
Norcross, GA 30071*



## Meeting Agenda

**Tuesday, July 5, 2016**

**6:30 PM**

**Council Chambers**

### **Mayor and Council**

**Mayor Bucky Johnson**  
**Mayor Pro Tem Craig Newton**  
**Council Member David McLeroy**  
**Council Member Andrew Hixson**  
**Council Member Josh Bare**  
**Council Member Pierre Levy**

**A. Call to order by Mayor Bucky Johnson**

PLEASE TURN OFF ALL CELL PHONES AND ELECTRONIC DEVICES

**B. Prayer****C. Pledge of Allegiance to the Flag of the United States of America****D. Roll Call (recorded)****E. Presentation of previous meetings minutes for acceptance and acceptance of the agenda as presented for scheduled meeting.**[16-4424](#)**Approval of Previous Meeting Minutes**

Attachments: [CC - Minutes - 06-06-2016 - Regular Mtg](#)

[CC - Minutes - 06-20-2016 - Policy](#)

[CC - Minutes - 06-20-2016 - Special Called](#)

[16-4425](#)**Acceptance of the Agenda****F. Ceremonial Presentations, Recognitions, and Swearing In Ceremonies****G. Floor Open to Citizens Desiring to Address the Governing Authority**

a. The floor is open to citizens desiring to address the governing authority

b. Comments by Council

**H. Public Hearings****PH.** [16-4397](#)**SUP2016-0002, Commercial Check Cashing In C-2 Zoning District**

Attachments: [Staff Report SUP2016-0002 MC 6-4-2016](#)

*Special Use Permit for operation of a commercial check cashing office in a C2, General Business District. Requesting approval of Special Use Permit.*

PH. [16-4386](#)**Discussion of RAOD Ordinance****Attachments:** [ORD 07-2016 RAOD Text Amendment](#)*1- Chapter 115 Zoning, Sec. 115-93,(c) Applicability, Items (1), (5) and (6)**Clarification of the relationship of the Overlay to the underlying zoning district and determination of how the overlay requirements are implemented.**2- Chapter 115, Zoning, Article 1, Sec. 115-5 Definitions**Clarification of the definitions of various types of building arrangements for the sign ordinance**3- Chapter 115, Zoning, Article III, Sec. 115-93 Redevelopment Overlay District, (k) Signs**Replacement of the current section with the use of the revised building type definitions in #2 above**Staff requests approval of the text change.*PH. [16-4416](#)**Text Amendment to Chapter 115, Article IV, Section 115-115****Attachments:** [ORD 05-2016 Walls and fences](#)*Text change to clarify the requirements for fencing in the city.**1- Division 2.-Architectural Review Board, Sec. 101-55, Sec. 105-58**Clarification of areas of responsibility for colors and fencing requirements**2- Chapter 115- Zoning, Sec. 115-115**Clarification of the meaning of decorative fencing by the use of photographic examples of what is meant by decorative fencing for front yards.***I. Reports of the Mayor and Council Members**

**a. General Announcements**

\*\*\*\*\*July Calendar of Events\*\*\*\*\*

*July 7 – SCORE, Simple Business Steps Class, 5:30 – 8:30 p.m., Community Center*

*July 7 – Summerour Park Soccer Complex Ribbon Cutting, 9 a.m., Summerour Park*

*July 8- Summer Concert Series, Butch and the Buckheads, 7:30 - 9:30 p.m., Thrasher Park*

*July 9- Norcross Community Market, 9 a.m. - 1 p.m., Lillian Webb Park*

*July 11- Movie Monday, Creed, 1:30 & 6:30 p.m., Community Center*

*July 16- Norcross Community Market, 9 a.m. - 1 p.m., Lillian Webb Park*

*July 16- Jazz in the Alley, Laura Coyle, 7:30 - 9:30 p.m., Betty Mauldin Park*

*July 18- Policy Work Session, 6:30 p.m., City Hall, 2nd Floor Conf Room*

*July 19 - Pre and Post Housing Counseling Class, 9:30 a.m. – 12:30 p.m., Community Center*

*July 22- Summer Concert Series, Satin Finish, 7:30 - 9:30 p.m., Thrasher Park*

*July 23- Norcross Community Market, 9 a.m. - 1 p.m., Lillian Webb Park*

*July 25- Movie Monday: Star Wars- Forces Awakens, 1:30 & 6:30 p.m., Community Center*

*July 26- Discover Garden Park Ladies Night Out, 6:30 p.m., The Rectory*

*July 30- Norcross Community Market, 9 a.m. - 1 p.m., Lillian Webb Park*

**J. Board Appointments****K. Consent Agenda****1. [16-4422](#) Approval of Additional Services for Parking Deck Architect**

**Attachments:** [Batson Cook Proposal Letter](#)

*Staff is requesting approval of overrun fees totally \$24,945 at this time only, for work previously completed.*

2. [16-4417](#) **Request to Retain Ferrari Mural on Skin Alley**

**Attachments:** [Staff Report and Recommendation](#)  
[ARB 05-17-2016 Minutes](#)

*The City of Norcross was fortunate to be selected by Toyota to be the site of the filming of a commercial for the new Prius. The commercial involved three days of filming a muralist, Peter Ferraro, painting a new mural on the Skin Alley side of 67 S. Peachtree. Toyota paid for the mural and has offered it to the City as a permanent art piece. The mural has been through the ARB and was approved 4- 0 at the May meeting. A copy of the minutes of the meeting and the Staff Report on the project is attached. NPAC is requesting that the Mayor & Council approve the mural as a permanent part of the Skin Alley art project.*

3. [16-4410](#) **Text Amendment to Article II. - Boards Commissions, Authorities, and Committees**

**Attachments:** [ORD 04-2016 ARB MeetingText Amendment](#)

*A minor text change to Sec. 101-58 to correct the meeting date of the Architectural Review Board.*

4. [16-4418](#) **Sheffield Road Drainage Contract**

**Attachments:** [Sheffield Forest Contract and RFP](#)

*Public Works, Utilities & Parks is seeking approval to move forward on the Sheffield Road Drainage Improvement Project with Site Engineering, Inc. The purpose of the Sheffield Road Drainage Improvements Project will be to install a new drainage system at the intersection of Sheffield Road and Lancelot Drive in the City of Norcross and a pipe runoff to the nearby drainage culvert under Sheffield Road.*

5. [16-4420](#) **Agreement with r360 to Provide Research, Marketing and Consulting Services**

**Attachments:** [Agreement with r360](#)

*On April 4, 2016, The Mayor and Council selected r360 to complete a Retail Strategy Plan for the city. The attached agreement is presented to Mayor and Council for review and approval to carry out said plan.*

6. [16-4419](#) **A Resolution to Approve a List of Projects for the Proposed 2017 Gwinnett County SPLOST Referendum**

**Attachments:** [2017 SPLOST resolution](#)  
[SPLOST Allocations Exhibit A](#)

*The intent of the attached Resolution is to approve a List of Projects for the 2017 Gwinnett County Special Purpose Local Option Sales Tax (SPLOST) Referendum and Authorize the Mayor and City Attorney to Execute an IGA with Gwinnett County.*

7. [16-4421](#) **2017 SPLOST IGA with Gwinnett County**

**Attachments:** [2016 SPLOST IGA 06-17-16 clean](#)

*Mayor and Council are asked to review and approve an IGA with Gwinnett County for use and distribution of proceeds generated by the 2017 Special Purpose Local Option Sales Tax (SPLOST).*

L. **Items for Discussion**

M. **Adjourn in memory of**

**Signed by** \_\_\_\_\_ **Mayor Bucky Johnson**

**Attest:** \_\_\_\_\_ **Monique Lang, City Clerk**



Legislation Details (With Text)

**File #:** 16-4424      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 6/28/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Approval of Previous Meeting Minutes

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** [1. CC - Minutes - 06-06-2016 - Regular Mtg.](#), [2. CC - Minutes - 06-20-2016 - Policy](#), [3. CC - Minutes - 06-20-2016 - Special Called](#)

Date	Ver.	Action By	Action	Result
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**Title**

**Approval of Previous Meeting Minutes**

**Motion**

**A motion to Approve the June 6th Regular Council Meeting Minutes, the June 20th Special Called Meeting, Policy Work Session and Executive Session Minutes.**

# City of Norcross

65 Lawrenceville Street  
Norcross, GA 30071



## Meeting Minutes - Draft

Monday, June 6, 2016

6:30 PM

Council Chambers

### Mayor and Council

*Mayor Bucky Johnson*  
*Mayor Pro Tem Craig Newton*

*Council Member David McLeroy*

*Council Member Andrew Hixson*

*Council Member Josh Bare*

*Council Member Pierre Levy*

**A. Call to order by Mayor Bucky Johnson**

PLEASE TURN OFF ALL CELL PHONES AND ELECTRONIC DEVICES

**B. Prayer**

**C. Pledge of Allegiance to the Flag of the United States of America**

**D. Roll Call (recorded)**

**Present** 6 - Mayor Bucky Johnson, Mayor Pro Tem Craig Newton, Council Member David McLeroy, Council Member Andrew Hixson, Council Member Josh Bare and Council Member Pierre Levy

**E. Presentation of previous meetings minutes for acceptance and acceptance of the agenda as presented for scheduled meeting.**

16-4412

**Approval of Previous Meeting Minutes**

**Attachments:** [CC - Minutes - 05-02-2016 - Regular Mtg](#)  
[CC - Minutes - 05-09-2016 - Special Called](#)  
[CC - Minutes - 05-16-2016 - Special Called](#)  
[CC - Minutes - 05-16-2016 - Policy](#)

**A motion was made by Mayor Pro Tem Newton, seconded by Council Member Bare, to Approve the May 2nd Regular Council Meeting Minutes, the May 9th Special Called, the May 16th Special Called Meeting, Policy Work Session and Executive Session Minutes. The motion PASSED by the following vote.**

**Aye:** 5 - Mayor Pro Tem Newton, Council Member McLeroy, Council Member Hixson, Council Member Bare and Council Member Levy

**Abstain:** 0

16-4413

**Acceptance of the Agenda**

**A motion was made by Council Member Hixson, seconded by Council Member McLeroy, to Accept the Agenda as Presented with the following items being moved to discussion:**

**16-4408 2017 SPLOST Projects Discussion**  
**16-4378 Proposed IGA with DDA to Manage Development on the Lots around the Community Center**

**The motion PASSED by the following vote.**

**Aye:** 5 - Mayor Pro Tem Newton, Council Member McLeroy, Council Member Hixson, Council Member Bare and Council Member Levy

**Abstain:** 0

**F. Ceremonial Presentations, Recognitions, and Swearing In Ceremonies**

**G. Floor Open to Citizens Desiring to Address the Governing Authority**

a. The floor is open to citizens desiring to address the governing authority

b. Comments by Council

**H. Public Hearings**

**I. Reports of the Mayor and Council Members**

a. General Announcements

**J. Board Appointments**

**K. Consent Agenda**

**Approval of the Consent Agenda**

A motion was made by Council Member Hixson, seconded by Council Member Levy, to Approve the Consent Agenda. The motion carried by the following vote:

**Aye:** 5 - Mayor Pro Tem Newton, Council Member McLeroy, Council Member Hixson, Council Member Bare and Council Member Levy

**Abstain:** 0

1. [16-4399](#) **Creation of Discovery Garden Park Board Ordinance**

**Attachments:** [ORD 03-2016 Discovery Garden Park Board](#)

The Agenda Item was Approved by consent vote.

2. [16-4398](#) **Intergovernmental Agreement with Georgia Emergency Management Agency**

**Attachments:** [Statewide Mutual Aid and Assitance Agreement](#)

The Agenda Item was Approved by consent vote.

3. [16-4401](#) **Amendment to Economic Development Manager Job Description**

**Attachments:** [Memo - Economic Dev Dir DDA](#)  
[Economic Development DDA Director](#)

The Agenda Item was Approved by consent vote.

L. **Items for Discussion**

4. [16-4408](#) **2017 SPLOST Projects Discussion**

**Attachments:** [SPLOST Categories2](#)

A motion was made by Council Member Andrew Hixson, seconded by Mayor Pro Tem Craig Newton, to Approve Allocations to the Proposed 2017 SPLOST Fund as follows:

Parks & Recreation	55%
Transportation	35%
Parking	10%

The motion was APPROVED by the following vote:

**Aye:** 5 - Mayor Pro Tem Newton, Council Member McLeroy, Council Member Hixson, Council Member Bare and Council Member Levy

**Abstain:** 0

5. [16-4378](#) **Proposed IGA with DDA to Manage Development on the Lots around the Community Center**

**Attachments:** [Memo - Proposed IGA with DDA](#)  
[IGA with DDA including Plaza Latina](#)

A motion was made by Council Member Josh Bare, seconded by Council Member Andrew Hixson, to Approve the attached IGA with the DDA as presented. The motion was APPROVED by the following vote:

**Aye:** 5 - Mayor Pro Tem Newton, Council Member McLeroy, Council Member Hixson, Council Member Bare and Council Member Levy

**Abstain:** 0

M. **Adjourn in memory of**

Signed by \_\_\_\_\_ Mayor Bucky Johnson

Attest: \_\_\_\_\_ Monique Lang, City Clerk

# City of Norcross

65 Lawrenceville Street  
Norcross, GA 30071



## Meeting Minutes - Draft

Monday, June 20, 2016

6:30 PM

2nd Floor Conference Room

### Policy Work Session

*Mayor Bucky Johnson*

*Mayor Pro Tem Craig Newton*

*Council Member David McLeroy*

*Council Member Andrew Hixson*

*Council Member Josh Bare*

*Council Member Pierre Levy*

**ROLL CALL**

**Present** 5 - Mayor Pro Tem Craig Newton, Council Member David McLeroy, Council Member Andrew Hixson, Council Member Josh Bare and Council Member Pierre Levy

**Absent** 1 - Mayor Bucky Johnson

**Citizen Input****Board Updates****General Updates****Council - General Discussion****Board Appointments**

PH. [16-4397](#) **SUP2016-0002, Commercial Check Cashing In C-2 Zoning District**

**Attachments:** [Staff Report SUP2016-0002 MC 6-4-2016](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016

PH. [16-4386](#) **Discussion of RAOD Ordinance**

**Attachments:** [ORD 07-2016 RAOD Text Amendment](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016

1. [16-4422](#) **Final Design and Construction of Library Parking Deck**

**Attachments:** [Batson Cook Proposal Letter](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016

2. [16-4417](#) **Request to Retain Ferrari Mural on Skin Alley**

**Attachments:** [Staff Report and Recommendation](#)  
[ARB 05-17-2016 Minutes](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016

3.     [16-4416](#)           **Text Amendment to Chapter 115, Article IV, Section 115-115**

*Attachments:*     [ORD 05-2016 Walls and fences](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016
4.     [16-4410](#)           **Text Amendment to Article II. - Boards Commissions, Authorities, and Committees**

*Attachments:*     [ORD 04-2016 ARB MeetingText Amendment](#)

This matter was Moved to the Mayor and Council, due back on 7/5/2016
5.     [16-4418](#)           **Sheffield Road Drainage Contract**

*Attachments:*     [Sheffield Forest Contract and RFP](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016
6.     [16-4420](#)           **Agreement with r360 to Provide Research, Marketing and Consulting Services**

*Attachments:*     [Agreement with r360](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016
7.     [16-4411](#)           **Rename Point Park to Veterans Park**

This matter was Referred to the Policy Work Session, due back on 7/18/2016
8.     [16-4419](#)           **A Resolution to Approve a List of Projects for the Proposed 2017 Gwinnett County SPLOST Referendum**

*Attachments:*     [2017 SPLOST resolution](#)  
                          [SPLOST Allocations Exhibit A](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016
9.     [16-4421](#)           **2017 SPLOST IGA with Gwinnett County**

*Attachments:*     [2016 SPLOST IGA 06-17-16 clean](#)

This matter was Referred to the Mayor and Council, due back on 7/5/2016

**Adjourn to Executive Session for Personnel, Real Estate or Legal**

Signed by: \_\_\_\_\_ Mayor Pro Tem

Attest: \_\_\_\_\_ Monique Lang, City Clerk

# City of Norcross

65 Lawrenceville Street  
Norcross, GA 30071



## Meeting Minutes - Draft

Monday, June 20, 2016

6:30 PM

2nd Floor Conference Room

### Special Called Meeting

*Mayor Bucky Johnson*

*Mayor Pro Tem Craig Newton*

*Council Member David McLeroy*

*Council Member Andrew Hixson*

*Council Member Josh Bare*

*Council Member Pierre Levy*

**A. Call to order by Bucky Johnson**

**PLEASE TURN OFF ALL CELL PHONES AND ELECTRONIC DEVICES**

**B. Roll Call (recorded)**

**Present** 5 - Mayor Pro Tem Craig Newton; Council Member David McLeroy; Council Member Andrew Hixson; Mayor Pro Tem Josh Bare and Mayor Pro Tem Pierre Levy

**Absent** 1 - Mayor Bucky Johnson

[16-4414](#)

**ANX2016-0001: Petition for Annexation into the corporate limits of Norcross, 2040 Beaver Ruin Road.**

**Attachments:** [Staff Report - Annex 2016-0001 MC Policy 6-20-2016](#)  
[Gwinnett Co. Response to Annexation](#)  
[ANNEXATION ORDINANCE FOR ANNEXATION UNDER THE 100% METHOD](#)  
[Exhibit A to Annexation Ordinance by 100% method](#)

**A motion was made by Council Member David McLeroy, seconded by Mayor Pro Tem Pierre Levy, to Approve a petition for Annexation by 100% method into the corporate limits of the City of Norcross the property located at 2040 Beaver Ruin Road, with the current Gwinnett County zoning designation of C-2. The motion was APPROVED by the following vote:**

**Aye:** 5 - Mayor Pro Tem Newton; Council Member McLeroy; Council Member Hixson; Mayor Pro Tem Bare and Mayor Pro Tem Levy

**Abstain:** 0

**Adjourn to Executive Session for Personnel, Real Estate or Legal**

**Signed by \_\_\_\_\_ Mayor Pro Tem Craig Newton**

**Attest: \_\_\_\_\_ Monique Lang, City Clerk**



Legislation Details (With Text)

**File #:** 16-4425      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 6/28/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Acceptance of the Agenda

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:**

Date	Ver.	Action By	Action	Result
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**Title**  
**Acceptance of the Agenda**

**Motion**  
**Motion to Accept the Agenda as Presented with the following items being moved to discussion:**



Legislation Details (With Text)

**File #:** 16-4397      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 4/29/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** SUP2016-0002, Commercial Check Cashing In C-2 Zoning District

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. [Staff Report SUP2016-0002 MC 6-4-2016](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		
5/19/2016	1	Planning and Zoning	Approved with the following conditions:	Pass
5/4/2016	1	Planning and Zoning	Tabled to the	Pass

**Title**  
**SUP2016-0002, Commercial Check Cashing In C-2 Zoning District**

**Drafter**  
**Jon Davis**

**Motion**  
**A motion to Approve/Deny Permit #SUP2016-0002 in a C-2 Zoning District with the following conditions:**

- 1.The Special Use Permit will only be for the operation of a commercial check cashing business by ACFS LLC.**
- 2. The Special Use Permit will be active only for the term of the lease on the property at 6030 Unity Dr. STE B. Norcross, GA 30071. A copy of the final lease will be sent to Community Development to be placed in the file.C.**
- 3. All proposed changes to the interior of the Suite will be properly permitted through the City of Norcross.**



07/05/2016

SUP2016-0002

<b>Action</b>	<b>Special Use Permit for operation of a commercial check cashing office in a C2, General Business District</b>
<b>Property Location</b>	<b>6030 Unity Dr. STE. B Norcross, GA 30071</b>
<b>Petitioner</b>	<b>ACFS LLC. 100 26<sup>th</sup> ST. NW Atlanta, GA 30309</b>
<b>Petitioner's Request</b>	<b>SUP to allow commercial check cashing services at location</b>

**Vicinity Map:**



The subject parcel is located at 6030 Unity Dr. STE B Norcross, GA 30071 and is a property within Plaza 85 Business Park. The parcel of land intended for use is noted in the above vicinity map as parcel 6216 033.

## **Analysis:**

The Applicant, ACFS LLC, a Georgia limited liability company, requests a Special Use Permit for the purpose of operating a business to business financial services company that will specialize in commercial check cashing. The proposed location is in the existing Plaza 85 office complex located at 6030 Unity Drive STE. B which is approximately 2100 square feet (the "Premises"). As a commercial, as opposed to retail, check cashing enterprise, client acquisition is conducted through an outside location sales initiative. All prospective check cashing clients are evaluated through a vetting and underwriting process designed to insure financial stability, legal standing and integrity before becoming clients. Simply put, Applicant's clients are established business owners. Applicant's commercial check cashing service provides its clients with immediate funds availability for a portion of the business checks they received in the course of their normal operations. Immediate access to funds allows Applicant's clients to better meet their pending financial obligations and opportunities. Applicant will not engage in the business of cashing any type of checks for consumers. The Applicant will employ 6 to 8 employees at the Premises. These employees will make up the sales force and operations staff.

Applicant's business is strictly regulated. Prior to commencing operations, it will be licensed by the State of Georgia and will be registered with the Federal Financial Crimes Network. Applicant is also subject to regulation by the Department of the US Treasury for compliance with the Anti-Money Laundering Rules and Bank Secrecy Act. Compliance with the US Department of the Treasury AML\BSA standards requires extensive continuing education and periodic auditing of the business.

## **Staff Recommendation:**

Staff recommends that this application for a Special Use Permit be allowed with the following conditions:

1. The Special Use Permit will only be for the operation of a commercial check cashing business by ACFS LLC.
2. The Special Use Permit will be active only for the term of the lease on the property at 6030 Unity Dr. STE B. Norcross, GA 30071. A copy of the final lease will be sent to Community Development to be placed in the file.
3. All proposed changes to the interior of the Suite will be properly permitted through the City of Norcross.

## **Planning & Zoning Board Actions:**

**The Board met on 5/19/2016 to review the requested SUP2016-0002. After and explanation of the business and a discussion of the proposed site the Board voted 5-0 to approve the SUP with the staff conditions noted above.**



Legislation Details (With Text)

**File #:** 16-4386      **Version:** 2

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 4/13/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Discussion of RAOD Ordinance

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. [ORD 07-2016 RAOD Text Amendment](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		
5/2/2016	1	Mayor and Council	Tabled	Pass
4/18/2016	1	Policy Work Session	Referred to the	

**Title**  
**Discussion of RAOD Ordinance**

**Drafter**  
**Jon Davis**

**Motion**  
**A motion to Approve/Deny an Amendment to Articles I and III of Chapter 115, Sec. 115-5 by adding definitions, revising provisions regarding signs and to define the relationship of the RAOD zoning classification to the underlying zoning district classification, and to define the effect of a change in use in the RAOD, with the following enacting clause:**

**The Mayor and City Council of the City of Norcross, Georgia, hereby ordains that the adopted Code of Ordinances is hereby amended as more particularly set forth below. It is the intention of the Mayor and City Council, and it is hereby ordained that the following provisions shall become and be made a part of the Code of the City of Norcross, and the Sections in the Code in the Ordinance be renumbered to accomplish that intention.**

[DRAFT]

**ORDINANCE NO. 07- 2016**

**An Amendment to Article I of Chapter 115, Sec. 115-5 of the City Code of Ordinances to add definitions for the terms “multi-tenant building,” “single building,” “multi-tenant development,” and “single development;” and to Article III of Chapter 115, Sec. 115-93 to the provisions regarding signs in the RAOD, to define the relationship of the RAOD zoning classification to the underlying district zoning classification, and to define the effect of a change in use in the RAOD; and for Other Purposes as Stated Herein:**

WHEREAS, the Mayor and Council of the City of Norcross have determined that it is in the best interest of the City that Articles I and III of Chapter 115, Sec. 115 of the Code of Ordinances of the City of Norcross be amended to (1) add certain definitions to Sec. 115-5; (2) to revise the provisions regarding signs in the RAOD in Sec. 115-93; (3) to define the relationship of the RAOD zoning classification to the underlying zoning district classification in Sec. 115-93; and (4) to define the effect of a change in use in the RAOD in Sec. 115-93; and for other purposes as stated herein; and

NOW THEREFORE, the Mayor and Council hereby amend Articles I and III of Chapter 115, as is more particularly set forth below.

Ordinance No. 07-2016

An Amendment to the City Code of Ordinances, Chapter 115, Zoning

**ENACTING CLAUSE.** The Mayor and City Council of the City of Norcross, Georgia, hereby ordains that the adopted Code of Ordinances is hereby amended as more particularly set forth below. It is the intention of the Mayor and City Council, and it is hereby ordained that the following provisions shall become and be made a part of the Code of the City of Norcross, and the Sections in the Code in the Ordinance be renumbered to accomplish that intention.

**I. Amendment.**

Chapter 115 entitled “Zoning,” Article I, Sec. 115-5 entitled “Definitions” of the Code of Ordinances for the City of Norcross shall be amended by adding the following definitions to be inserted in the current list of definitions, in alphabetical order, as follows:

“Multi-tenant building: A single building containing multiple uses or tenants where there are specific exterior entrance ways for individual uses.”

“Multi-tenant development: A single development containing multiple buildings where there are specific exterior entrance ways for the individual uses.”

“Single building: A single building containing a single use or tenant where there are one or more entrance ways for the individual use or tenant.”

“Single development: A single development containing a single use or tenant where there are one or more entrance ways for the individual use or tenant.”

## II. Amendment.

Chapter 115 entitled “Zoning,” Article III entitled “RAOD, Redevelopment Area Overlay District” of the Code of Ordinances for the City of Norcross shall be amended by deleting Section 115-93, subparagraph (k) and inserting the following in lieu thereof, as follows:

“(k) Signs.

- (1) Wall signs for buildings with a multi-tenant building, single building, multi-tenant development or single development shall be permitted in accordance with this chapter and Article VI, Sections 115-195, -196, -197, -198.
- (2) One shared sign, which shall be of a monument type, is permitted per frontage for multiple-tenant developments in the RAOD. (See example in Figure A.9.5 of the district guidelines.) No more than one such monument sign shall be allowed per entrance. Maximum size and minimum setbacks shall be in accordance with section 115-187.
- (3) Signage for individual establishments within a multi-tenant building or development shall be limited to wall signs, awning signs, canopy signs, projecting signs, and suspended signs. Cumulative sign face area for all signage applied for under this section shall be the lesser of 50 square feet or 2.5 square feet per linear foot of frontage of an individual building, unit, or tenant space. One projecting and one suspended sign shall be allowed per individual establishment within a multi-tenant building or development, not to exceed 25 square feet in area and maintain a minimum clearance of eight feet six inches. (See Figures A.9.1 through A.9.4 of the district guidelines.)
- (4) Signage for a single building or single development shall be limited to wall signs, awning signs, canopy signs, projecting signs, and suspended signs. Cumulative sign face area for all signage applied for under this section shall be the lesser of 100 square feet or 2.5 square feet per linear foot of frontage of an individual building, unit, or tenant space. One projecting and one suspended sign shall be allowed per individual establishment within a multi-tenant building or development, not to exceed 25 square feet in area and maintain a minimum clearance of eight

feet six inches. (See Figures A.9.1 through A.9.4 of the district guidelines.)

(5) Buildings that provide a secondary entrance for customers or residents on the rear or side of the building are allowed one wall sign, awning sign, canopy sign, projecting sign, or suspended sign per side or rear entrance in addition to all other signs that would otherwise be permitted. The total area of all signs permitted by this subsection shall not exceed 32 square feet per side or rear entrance.

(6) Each building, use or tenant shall be allowed to window signs not to exceed ten percent of the total window area of any facade containing the window sign.

(7) The lowest point of a projecting sign, suspended sign, awning sign, or canopy sign must be a minimum of eight feet, six inches above the sidewalk or ground elevation beneath it.

(8) Signs located more than 20 feet above the finished floor level are prohibited.

(9) Incidental signs, such as "No Parking," "Loading Zone," "Exit Only," "No Stopping or Standing," etc., that are up to four feet in height and up to three square feet in area are permitted. The cumulative area of incidental signs shall be limited to a total of 12 square feet per building tenant and shall not be included in the sign area provided in subsections (k)(2) and (3) of this section.

(10) The following types of signs are prohibited:

- a. Oversized signs.
- b. Internally illuminated signs.
- c. Neon signs.
- d. Variable message boards.
- e. Signs using LED panels.
- f. Day-glow signs.
- g. Signs with more than two sign faces, including V-shaped signs.
- h. Signs which rotate or otherwise feature movement.

- (11) Illuminated signs shall use external lighting fixtures directed toward the sign face so that light fixtures do not cast direct light or glare into adjacent streets or property.”

### III. Amendment.

Chapter 115 entitled “Zoning,” Article III entitled “RAOD, Redevelopment Area Overlay District” of the Code of Ordinances for the City of Norcross shall be amended by deleting Section 115-93, subparagraph (c) entitled “Applicability” and inserting the following in lieu thereof, as follows:

“(c) Applicability.

- (1) Relationship to Underlying Zoning District Provisions. The RAOD is an overlay zone. The land use regulations applicable to the underlying zoning classifications remain in full force and effect except where superseded herein. Where there is a provision not expressed in the underlying zoning classification, or where a provision hereof is in conflict with the underlying zoning classification, the provision of this RAOD shall be controlling.
- (2) Except as provided in subsection (c)(6) of this section, the provisions of this section shall apply to all parcels of land and rights-of-way within the boundaries of the RAOD provided in subsection (d) of this section.
- (3) The provisions of this RAOD apply to all applications for land disturbance permits, plan review, plat approval, sign permits and building permits for all property within the boundaries of the RAOD.
- (4) Concept plan reviews, plat approvals, land disturbance permits, and building permits for each parcel located within this RAOD shall meet all applicable requirements of this chapter, as amended, and all city development regulations, except where, and to the extent that, the requirements of this section, as well as the district guidelines and City of Norcross Redevelopment Area District Design Guidelines provide otherwise. In case of a conflict between the provisions of this section and any other city ordinance, the provisions of this section shall govern.
- (5) Change in Use.
  - a. A change in use may be initiated by an application for a certificate of occupancy, business license, building permit, development permit, change of occupancy or any actual change in use on the property, whether initiated by a formal application or otherwise.
  - b. A change in use that is authorized as a matter of right by the underlying zoning classification to another use authorized as a matter of right by the underlying zoning classification shall be permitted without invoking the RAOD requirements; and the exception set forth in subsection (c) (6) b shall apply to future

development activity authorized by the underlying zoning classification.

- c. Any change in use to a use permitted by the RAOD that is not a use authorized by the underlying zoning classification as a matter of right shall mandate that all future development for the affected parcel shall be in accordance with the RAOD and not the underlying zoning classification, and the exception set forth in subsection (c) (6) b shall not apply to future development activity.
- d. Any change in use permitted by subsection (c) (5) c shall require the owner of the property to execute an affidavit approved by the Director of the Community Development Department which shall commit that all future development of the affected property shall be in accordance with the RAOD and not with the underlying zoning classification, and acknowledging that the exception set forth in subsection (c) (6) b is forever waived for all future development activity on the affected parcel.

(6) Exemptions.

- a. Development activity for which the Director has received a valid and complete application for a building permit, development permit, or land disturbance permit prior to the enactment of this section shall be exempt from this section to the extent of property covered by such permit or application.
- b. Development activity at the site and/or exterior of any building or structure which is valued at 15 percent or less than the current county appraised value of the property. The cumulative impact of improvement allowed under this exemption may not exceed the 15 percent improvement allowance within a three-year period. This exception shall not apply for a change in use permitted by the RAOD that is not authorized by the underlying zoning classification as set forth in subsections (c) (5) c and (c) (5) d above.
- c. Development activity that is strictly interior to an existing building or structure.
- d. Variances from all the provisions of this section, other than subsection (f) of this section, shall be subject to the provisions of article IV of this chapter, as amended.
- e. No development activity made exempt from the requirements of this section shall be entitled to any of the increases in density or gross floor area afforded by this section.”

**IV. Severability.** If the provisions of any section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any ordinance, section, subsection, paragraph, subdivision or clause of this ordinance.

V. **Repealer.** All ordinances or parts thereof which are in conflict with any provision or any section, subsection, paragraph, subdivision or clause of this ordinance is hereby repealed to the extent of the conflict.

IN WITNESS WHEREOF, I have hereunto set my hand and caused this seal to be affixed, this the \_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Bucky Johnson, Mayor

ATTEST:

\_\_\_\_\_



Legislation Details (With Text)

**File #:** 16-4416      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 5/24/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Text Amendment to Chapter 115, Article IV, Section 115-115

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. [ORD 05-2016 Walls and fences](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		
6/8/2016	1	Planning and Zoning	Recommended for Approval	Pass

**Title**  
**Text Amendment to Chapter 115, Article IV, Section 115-115**

**Drafter**  
**Jon Davis**

**Motion**  
**A motion to Approve/Deny an Amendment to Article IV of Chapter 115, Sec. 115-115, subparagraph (1)(d) of the City Code of Ordinances to add graphic examples to further define and clarify the term “Ornamental and Decorative Fencing with the following enacting clause:**

**The Mayor and City Council of the City of Norcross, Georgia, hereby ordains that the adopted Code of Ordinances is hereby amended as more particularly set forth below. It is the intention of the Mayor and City Council, and it is hereby ordained that the following provisions shall become and be made a part of the Code of the City of Norcross, and the Sections in the Code in the Ordinance be renumbered to accomplish that intention.**

[DRAFT]

**ORDINANCE NO. 05 - 2016**

**An Amendment to Article IV of Chapter 115, Sec. 115-115, subparagraph (1)(d) of the City Code of Ordinances to add graphic examples to further define and clarify the term “Ornamental and Decorative Fencing,” and for Other Purposes as Stated Herein:**

WHEREAS, Chapter 115 of the Code of Ordinances of the City of Norcross does not currently contain examples of decorative fencing; and

WHEREAS, the Mayor and Council of the City of Norcross have determined that it is in the best interest of the City that Article IV of Chapter 115, Sec. 115-115 (1)(d) of the Code of Ordinances of the City of Norcross be amended to further define and clarify the term “Ornamental and Decorative Fencing,” and for other purposes as stated herein; and

NOW THEREFORE, the Mayor and Council hereby amend Article IV of Chapter 115, Sec. 115-115 by deleting subparagraph (1) (d) of Sec. 115-115 in its entirety and substituting the following new Sec. 115-115 (1) (d) in lieu thereof, as is more particularly set forth below.

Ordinance No. 05-2016

An Amendment to the City Code of Ordinances, Chapter 115, Zoning

**ENACTING CLAUSE.** The Mayor and City Council of the City of Norcross, Georgia, hereby ordains that the adopted Code of Ordinances is hereby amended as more particularly set forth below. It is the intention of the Mayor and City Council, and it is hereby ordained that the following provisions shall become and be made a part of the Code of the City of Norcross, and the Sections in the Code in the Ordinance be renumbered to accomplish that intention.

**I. Amendment.**

Chapter 115 entitled “Zoning,” Article IV entitled “Exceptions and Modifications” of the Code of Ordinances for the City of Norcross shall be amended by deleting subparagraph (1)(d) of Section 115-115 and inserting the following in lieu thereof, as follows:

“Article IV-Exceptions and Modifications

Sec. 115-115. - Walls and fences.

Walls and fences shall be permitted in any zoning district and are not subject to setback requirements, except as provided for in this section.

(1) In a residential zoning district, the following provisions shall apply:

....

- d. Any wall or fence which extends into the front yard on property containing less than three acres shall be ornamental or decorative and may be constructed of brick, stone, wood, stucco, wrought iron or split rail; provided that no wall or fence shall be constructed of exposed concrete block, tires, junk or other discarded materials.

**Sample Images of Decorative Fencing**



Wood Pickets with Gate



Masonry & Wrought Iron



Wrought Iron



Simple Wooden Fence

These images are presented as a guide for selection of a decorative fence.

II. **Severability.** If the provisions of any section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any ordinance, section, subsection, paragraph, subdivision or clause of this ordinance.

III. **Repealer.** All ordinances or parts thereof which are in conflict with any provision or any section, subsection, paragraph, subdivision or clause of this ordinance is hereby repealed to the extent of the conflict.

IN WITNESS WHEREOF, I have hereunto set my hand and caused this seal to be affixed, this the \_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Bucky Johnson, Mayor

ATTEST:

\_\_\_\_\_



Legislation Details (With Text)

**File #:** 16-4422      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 6/16/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Approval of Additional Services for Parking Deck Architect

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. [Batson Cook Proposal Letter](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		

**Title**  
**Approval of Additional Services for Parking Deck Architect**

**Drafter**  
**Jon Davis**

**Motion**  
**A motion to Approve/Deny Additional Service fees in the amount of \$25,945 funded by SPLOST Parking Fund.**

May 27, 2016

Mr. Jon Davis  
Director and City Planner  
City of Norcross Community Development Department  
65 Lawrenceville Street  
Norcross, GA 30071

Re: Lillian Webb Park Gateway Parking Deck  
Fee Proposal

Dear Mr. Davis:

Our revised proposal to complete the Design Services for the revised program for Lillian Webb Parking Deck / Podium is \$383,560. This includes Architectural, Landscape, Structural, Civil, and MEP Design Services. Progress estimates are also included. These services are for 100% CD's through permitting.

Over the last year, during the discovery process, there was a cost overrun to our original proposal of \$24,945 for Architectural Services.

The combined amount for these services is \$408,505.

We thank you for the opportunity to submit our proposal.

Sincerely,  
**BATSON-COOK COMPANY**



Paul Meadows  
Sr. Vice President/General Manager



Legislation Details (With Text)

**File #:** 16-4417      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 6/9/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Request to Retain Ferrari Mural on Skin Alley

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. [Staff Report COA2016-0023 M&C 6-20-2016](#), 2. [ARB 05-17-2016 Minutes](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		

**Title**  
**Request to Retain Ferrari Mural on Skin Alley**

**Drafter**  
**Jon Davis**

**Motion**  
**A motion to Retain/Remove the Ferrari Mural on Skin Alley.**



07/05/2016

Petition No. COA2016-0023

<b>Project Type</b>	<b>PUBLIC MURAL</b>
<b>Property Location</b>	<b>67 South Peachtree St.</b>
<b>Petitioner</b>	<b>N.P.A.C.</b>
	<b>65 Lawrenceville St.</b>
	<b>Norcross, GA 30071</b>
<b>Petitioner's Request</b>	<b>Permission to keep mural on site</b>

**Vicinity Map:**



The building site is located at 67 South Peachtree St. in Skin Alley.

**Existing Site Analysis:**

The mural is located on the rear of the masonic lodge and Publix Credit Union buildings on 67 South Peachtree St. and fronts Skin Alley.



This project was conceived as a backdrop in a commercial for Toyota filmed by 22squared Inc. This is the first public art mural to be processed by N.P.A.C. The ARB recommendations will be forwarded to Mayor and Council for final action.

Staff has been involved in the mural's installation from its conception as a component of the commercial filming permit. The addition of this wall art provides a precedent for the beginning of a Skin Alley art way. The piece is vibrant and emphasizes our city motto "A place to imagine."

## Artist Profile:

Peter Ferrari has made his living as a full-time artist, which is no mean feat when you consider that his canvas is often the side of a building—not exactly a transportable medium. Peter was born in Atlanta and has lived here most of his life. At 35, he’s old enough to remember that the city’s conflicted relationship with graffiti is nothing new; what is new is a greater appreciation for what separates his work from that of a tagger. “People want that edgy, urban look,” he told me, **“but they don’t want a bunch of tags all over the place.”**



GERBER GROUP

PRESENTS

# ART IN THE PARK

CELEBRATE WITH

## WHISKEY PARK

&

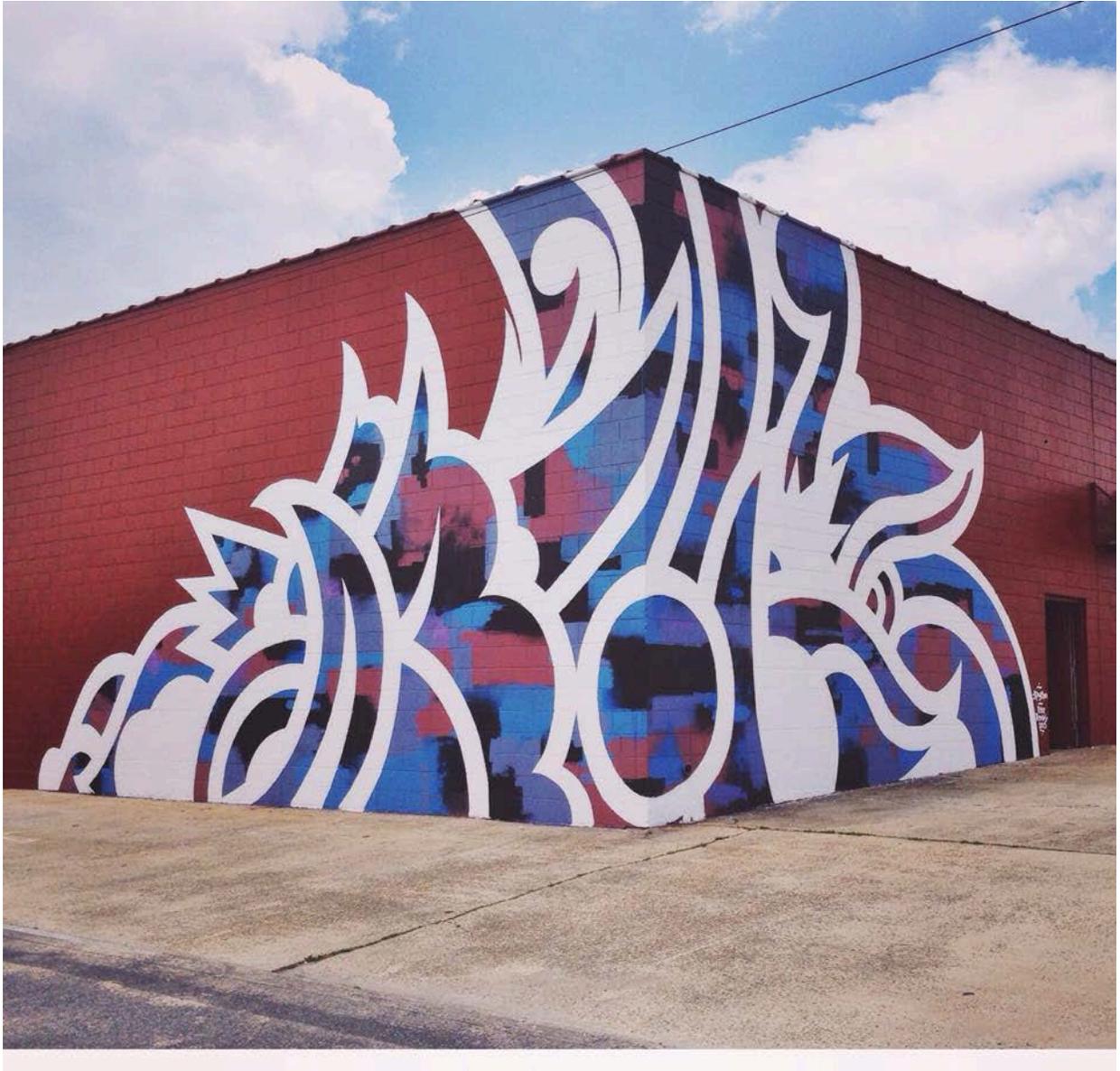
## PETER FERRARI

**JULY 24TH FROM 9 PM - CLOSE**

W ATLANTA - MIDTOWN | 188 14TH ST NE, ATLANTA, GA 30361  
WWW.GERBERBARS.COM | FACEBOOK.COM/WPATL

W  
ATLANTA  
MIDTOWN

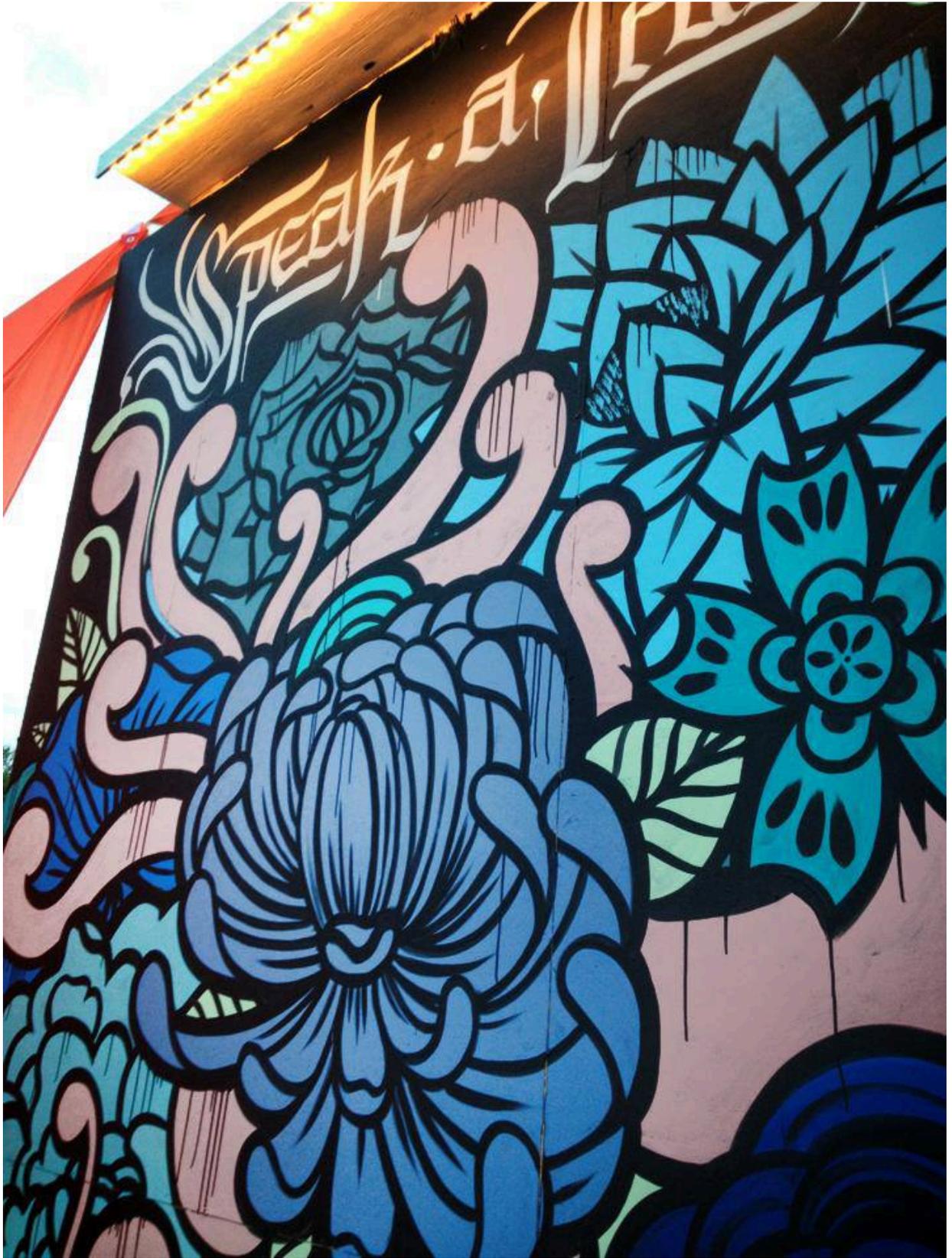














### **Recommended Conditions**

Staff recommends, should the board vote not to approve, the mural will be subject to the following conditions:

1. As per agreement with 22Squared Inc., should the board disapprove the mural, it will be subject to the Mayor and Council's decision whether or not to have it painted over with a color in conformance with surrounding structures within a two to three week period from the date Mayor and Council makes their final decision.

### **ARB Action**

**On 05/17/2016 the ARB met to review this application for a Certificate of Appropriateness. The Board voted to approve the mural and forward the application to the Mayor & Council with a recommendation of approval**

# City of Norcross

65 Lawrenceville Street  
Norcross, GA 30071



## Meeting Minutes - Final

Tuesday, May 17, 2016

6:00 PM

2nd Floor Community Room

## Architectural Review Board

*Jeff Hopper*  
*Rick Maxian*  
*Jim McGarrah*  
*Cindy Flynn*  
*John Blackwelder*

**1. Roll Call**

**Present** 4 - Chairman Jeff Hopper; Board Member Jim McGarrah; Board Member John Blackwelder and Cindy Flynn  
**Absent** 1 - Board Member Rick Maxian

**2. Presentation of Previous Meeting Minutes**[16-4407](#)**April 19, 2016 Minutes**

**Attachments:** [ARB MINUTES 4 19 2016](#)

**A motion was made by Board Member McGarrah, seconded by Board Member Flynn, that this Agenda Item be Approved. The motion PASSED by the following vote.**

**Aye:** 4 - Chairman Hopper; Board Member McGarrah; Board Member Blackwelder and Flynn

**Abstain:** 0

**3. Old Business****4. New Business**[16-4402](#)**COA2016-0019, 44 Stevens Road**

**Attachments:** [Staff Report COA2016-0019](#)  
[Plans and material](#)

**A motion was made by Chairman Hopper, seconded by Board Member Blackwelder, that this Agenda Item be Approved with the following staff conditions:**

- 1. Any exterior mechanical systems shall be screened in accordance with Architectural & Site Design Standards section 3.1.10.**
- 2. Landscape plan will be required prior to issuance of Certificate of Occupancy for the property. This plan shall show compliance with Norcross City standards and require 70% canopy coverage for lot.**
- 3. Exterior lights for garage shall be submitted for Administrative approval.**
- 4. Exterior colors shall be: House - body: SW2821, Trim: SW0050.**
- 5. Brick is to be "Heritage" by Mangum Std, Modular or Queen**
- 6. Stone color and style.**
- 7. Roof material to be submitted for Administrative approval.**
- 8. There shall be a final inspection by City Staff to confirm Architectural Review Board conditions have been met prior to the issuance of a Certificate of Occupancy.**

**The motion PASSED by the following vote.**

**Aye:** 4 - Chairman Hopper; Board Member McGarrah; Board Member Blackwelder and Flynn

**Abstain:** 0

[16-4403](#)

## COA2016-0020, 5910 Brundage Lane

**Attachments:** [Staff Report COA2016-0020](#)  
[Architectural Details COA2016-0020](#)

A motion was made by Chairman Jeff Hopper, seconded by Board Member John Blackwelder, that this agenda item be Approved with following staff conditions:

1. Any exterior mechanical systems shall be screened in accordance with Architectural & Site Design Standards section 3.1.10.
2. Must submit roofing plan with grade and pitch details.
3. Clarification of siding used as finish.
4. Submission of specifications of the 32 light window on the front elevation.
5. Clarification of chimney legality.
6. Metal roof color shall be submitted for Administrative approval.
7. Exterior light fixtures shall be submitted for Administrative approval.
8. Brick and mortar shall be submitted for Administrative approval.
9. There shall be a final inspection by City Staff to confirm Architectural Review Board conditions have been met prior to the issuance of a Certificate of Occupancy.

The motion was APPROVED by the following vote:

**Aye:** 4 - Chairman Hopper; Board Member McGarrah; Board Member Blackwelder and Flynn

**Abstain:** 0

[16-4404](#)

## COA2016-0021, 5900 Brundage Lane

**Attachments:** [Staff Report COA2016-0021](#)  
[Architectural Details COA2016-0021](#)

A motion was made by Chairman Hopper, seconded by Board Member Flynn, that this Agenda Item be Approved with following staff conditions:

1. Any exterior mechanical systems shall be screened in accordance with Architectural & Site Design Standards section 3.1.10.
2. Must submit roofing plan with grade and pitch details.
3. Clarification of siding used - H.P. shake, lap, or cedar shake.
4. Clarification on fireplace placement and height.
5. Clarification on roofing material and color.
6. Exterior light fixtures color and style shall be submitted for Administrative approval.
7. Brick and mortar shall be submitted for Administrative approval.
8. There shall be a final inspection by City Staff to confirm Architectural Review Board conditions have been met prior to the issuance of a Certificate of Occupancy.

The motion PASSED by the following vote.

**Aye:** 4 - Chairman Hopper; Board Member McGarrah; Board Member Blackwelder and Flynn

**Abstain:** 0

[16-4405](#)

## COA2016-0022, 5766 Hammond Drive

**Attachments:** [Staff Report COA2016-0022](#)  
[SCANNED PLANS](#)

A motion was made by Chairman Hopper, seconded by Board Member McGarrah, that this Agenda Item be Approved with following staff conditions:

1. Any exterior mechanical systems shall be screened in accordance with Architectural & Site Design Standards section 3.1.10.
2. Will require a complete materials and colors list before final approval.
3. Will require a landscape plan before final approval.
4. Will require information on: basement finish material on side elevation, explain absence of windows on right elevation, clarify chimney bump out and how is the fireplace vented.
5. Removing shutter and putting 1 x 6 trim on window.
6. Exterior lighting to be submitted for Administrative approval.
7. Gutters to be trim color.
8. Stone water table on left and right.
9. One (1) window on right and left elevations.
10. There shall be a final inspection by City Staff to confirm Architectural Review Board conditions have been met prior to the issuance of a Certificate of Occupancy.

The motion PASSED by the following vote.

**Aye:** 4 - Chairman Hopper; Board Member McGarrah; Board Member Blackwelder and Flynn

**Abstain:** 0

[16-4406](#)

## COA2016-0023, 67 South Peachtree Street

**Attachments:** [Staff Report COA2016-0023](#)

A motion was made by Board Member McGarrah, seconded by Chairman Hopper, that this Agenda Item be Approved. The motion PASSED by the following vote.

**Aye:** 3 - Chairman Hopper; Board Member McGarrah and Board Member Blackwelder

**Abstain:** 1 - Flynn

5. **ADDITIONAL INPUT AND/OR DISCUSSION NOT OTHERWISE ADDRESSED BY THIS AGENDA**
6. **Adjourn**



Legislation Details (With Text)

**File #:** 16-4410      **Version:** 1

**Type:** Ordinance      **Status:** Agenda Ready

**File created:** 5/13/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Text Amendment to Article II. - Boards Commissions, Authorities, and Committees

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. [ORD 04-2016 ARB MeetingText Amendment](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		

**Title**  
**Text Amendment to Article II. - Boards Commissions, Authorities, and Committees**

**Drafter**

**Jon Davis**

**Motion**

**A motion to Approve/Deny an Amendment to Article II, Division 2 of Chapter 101 of the City Code of Ordinances regarding the Architectural Review Board to change the monthly meeting date, and to grant the Architectural Review Board the power to review fence designs with the following enacting clause:**

**The Mayor and City Council of the City of Norcross, Georgia, hereby ordains that the adopted Code of Ordinances is hereby amended as more particularly set forth below. It is the intention of the Mayor and City Council, and it is hereby ordained that the following provisions shall become and be made a part of the Code of the City of Norcross, and the Sections in the Code in the Ordinance be renumbered to accomplish that intention.**

[DRAFT]

**ORDINANCE NO. 04- 2016**

**An Amendment to Article II, Division 2 of Chapter 101 of the City Code of Ordinances regarding the Architectural Review Board to change the monthly meeting date, and to grant the Architectural Review Board the power to review fence designs, and for Other Purposes as Stated Herein:**

WHEREAS, the Code of Ordinances of the City of Norcross do not currently have a specific provision in the zoning ordinance to provide for the review of fence designs by the Architectural Review Board; and

WHEREAS, the Mayor and Council of the City of Norcross have determined that it is in the best interest of the City that Article II, Division 2 of Chapter 101 of the Code of Ordinances of the City of Norcross be amended to change the monthly meeting date of the Architectural Review Board, to grant the Architectural Review Board the power to review fence designs, and for other purposes as stated herein; and

NOW THEREFORE, the Mayor and Council hereby amend Article II, Division 2 of Chapter 101 by deleting paragraph (a) of Sec. 101-58 in its entirety and substituting the following new Sec. 101 (a) in lieu thereof, and to add a new subparagraph (9) to Section 101-59, as is more particularly set forth below.

Ordinance No. 04-2016

An Amendment to the City Code of Ordinances, Chapter 101, General Administrative Provisions

**ENACTING CLAUSE.** The Mayor and City Council of the City of Norcross, Georgia, hereby ordains that the adopted Code of Ordinances is hereby amended as more particularly set forth below. It is the intention of the Mayor and City Council, and it is hereby ordained that the following provisions shall become and be made a part of the Code of the City of Norcross, and the Sections in the Code in the Ordinance be renumbered to accomplish that intention.

**I. Amendment.**

- A. Chapter 101 entitled “General and Administrative Provisions,” Article II entitled “Boards Commissions, Authorities, and Committees,” Division 2, entitled “Architectural Review Board” of the Code of Ordinances for the City of Norcross shall be amended by deleting paragraph (a) of Section 101-58 and inserting the following in lieu thereof, as follows:

“Sec. 101-58. - Rules of procedure; meetings; minutes; records.

- (a) The Architectural Review Board shall set a meeting date which will recur each month for the purposes of reviewing applications for certificate of appropriateness.”

B. Chapter 101 entitled “General and Administrative Provisions,” Article II entitled “Boards Commissions, Authorities, and Committees,” Division 2, entitled “Architectural Review Board” of the Code of Ordinances for the City of Norcross shall be amended by adding a new subparagraph (9) to Section 101-59 entitled ”Powers” as follows:

“Sec. 101-59. Powers.

The authority of the Architectural Review Board shall encompass all of the area bound by the city limits.

The Architectural Review Board shall be review approval authority of the following:

....

- (2) New construction residential facades.
- (7) Modifications to residential faces within the historic district

(9) Fences will be governed by Section 115-115 of the City Code. The ARB shall review designs for compatibility with the city’s architectural palette.”

**II. Severability.** If the provisions of any section, subsection, paragraph, subdivision or clause of this ordinance shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any ordinance, section, subsection, paragraph, subdivision or clause of this ordinance.

**III. Repealer.** All ordinances or parts thereof which are in conflict with any provision or any section, subsection, paragraph, subdivision or clause of this ordinance is hereby repealed to the extent of the conflict.

IN WITNESS WHEREOF, I have hereunto set my hand and caused this seal to be affixed,  
this the \_\_\_\_ day of \_\_\_\_\_, 2016.

\_\_\_\_\_  
Bucky Johnson, Mayor

ATTEST:

\_\_\_\_\_



Legislation Details (With Text)

**File #:** 16-4418      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 6/9/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Sheffield Road Drainage Contract

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. [Sheffield Forest Contract and RFP](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		

**Title**  
**Sheffield Road Drainage Contract**

**Drafter**  
**Mary Beth Bender**

**Motion**  
**A motion to Approve/Deny the Attached Contract for Drainage Improvements with Site Engineering Incorporated in the amount of \$106,405, funded by the Stormwater Fund.**



**PUBLIC WORKS, UTILITIES & PARKS**  
**MARY BETH BENDER, DIRECTOR**

---

TO: Mayor and City Council  
FROM: Mary Beth Bender  
DATE: May 24, 2016  
SUBJECT: Sheffield Road Drainage Improvements  
CC: Rudolph Smith, City Manager

**Presented by:** Mary Beth Bender, Director of Public Works Utilities & Parks/ACM

*Project Description*

Public Works, Utilities & Parks is seeking approval to move forward on the Sheffield Road Drainage Improvement Project with Site Engineering, Inc. The purpose of the Sheffield Road Drainage Improvements Project will be to install a new drainage system at the intersection of Sheffield Road and Lancelot Drive in the City of Norcross and a pipe runoff to the nearby drainage culvert under Sheffield Road. The project will include construction of a new 18-inch RCP drainage system and accessories, road paving, grading, erosion control, utility coordination, and traffic control.

Request for Proposal PWUP 16-03 was issued with three bids returned:

COMPANY NAME	BID AMOUNT
Tople Construction & Engineering, Inc.	\$156,000
Construction 57 Incorporated	\$190,000
Site Engineering Incorporated	\$106,405

**Staff Recommendation:** Site Engineering Incorporated

**Funding Source:** Storm Water

**Project Cost:** \$106,405 + 10% contingency = \$117,045.50

## *Contractor Agreement*

AGREEMENT BETWEEN VALLEY ROAD DRAINAGE IMPROVEMENT CONTRACTOR AND THE CITY OF  
NORCROSS

PROJECT: SHEFFIELD ROAD DRAINAGE IMPROVEMENT

### *Project Description*

*The Contractor's work will include a new drainage system at the intersection of Sheffield Road and Lancelot Drive in the City of Norcross with a pipe runoff to the nearby drainage culvert under Sheffield Road. The project will include construction of a new 18-inch RCP drainage system and accessories, road paving, grading, erosion control, utility coordination, and traffic control.*

This AGREEMENT is made this second (6th) day of July in the year two thousand Eleven (2016) between **The City of Norcross**, hereinafter the "owner", and Site Engineering, Inc. **General Contractor**, (hereinafter the "Contractor") for the following Project.

The contractor and owner for the consideration named herein agree as follows:

A. SCOPE OF WORK:

Site Engineering, Inc. shall be expected to meet with Public Works staff prior to the start of construction. This meeting shall serve as an opportunity for both parties to review the specifications and visit the project site.

Project to be completed in accordance with PWUP 16-03; the project should begin within ten (10) working days after notification of contract award.

### *Other Provisions*

All work shall be completed in a workmanship like manner and in compliance with all building codes and other applicable laws.

To the extent required by law, all work shall be performed by individuals duly licensed and authorized by law to perform said work.

Contractor may at its discretion, engage subcontractors to perform work hereunder, provided contractor shall fully pay said subcontractor and in all instances remain responsible for the proper completion of this contract.

All change orders shall be in writing and must be signed by the owner and contractor.

Contractor warrants it is adequately insured for injury to its employees and other incurring loss or injury as a result of the acts of the contractor or its employees and subcontractors. Contractor shall supply current declaration pages for such insurances at the execution of this agreement.

Contractor shall at its own expense obtain all permits necessary for the work to be performed.

Contractor agrees to remove all debris and leave the premises in broom clean condition.

In the event owner shall fail to pay any periodic or installment payment due hereunder, contractor may cease work without breach pending payment or resolution of any dispute.

Contractor shall not be liable for any delay due to circumstances beyond its control including strikes, casualty or general unavailability of materials. Notwithstanding anything set forth herein to the contrary, Contractor shall be liable to and pay to owner liquidated damages in the amount of \$500.00 per day for every day after the completion date the project is not completed. Owner shall have the non-exclusive option of deducting the liquidated damages from the contract price through reduction in the installments and or retainage.

Contractor warrants all work for a period of twelve (12) months following completion.

The contractor further represents and warrants as follows:

1. Contractor at all times shall inspect and keep the work place safe for contractor's agents, employees and subcontractors and any licensee or invitee and any other third party who might otherwise come onto the work place. The work place shall be defined as that portion of the project which is, from time to time, under the control of Contractor for the purpose of performance of Contractor's work according to the agreement.

2. Contractor agrees to indemnify and hold owners harmless from any and all claims, actions, damages or litigation arising out of contractor's failure to perform under the terms and conditions within the agreement, including the payment of owner's attorney's fees. This indemnification further provides that contractor will be responsible for any cost associated with the completion of the project should such costs of completions (which includes all labor and materials) exceed the initial fee proposal and contract price.

**B. ATTACHMENTS:**

1. Attachment "A" City of Norcross Request for Proposal and bid specifications – Project Description

**C. FEE PROPOSAL:**

1. The owner shall pay the contractor for the material and labor to be performed under the contract, the sum of one hundred six thousand, four hundred and five dollars (\$106,405), subject to change-order additions and deductions.
  2. Payment Applications will be submitted by the 10th of each month. Payment will be made by the tenth of the following month.
  3. Retainage will be held by the owner equal to 10 percent of each pay application. Retainage shall be paid in full upon completion of the work.

**D. SCHEDULE:**

1. Site Engineering Inc. is prepared to begin work upon receipt of a signed contract.

**E. PROJECT INSPECTIONS:**

1. The renovation project shall be inspected by the Norcross Department of Public Works or its contract engineering staff. These inspections shall be in addition to required inspection by the Department of Community Development.

**F. TERMS AND CONDITIONS:**

1. This Agreement shall be administered in accordance with the Terms and Conditions listed in Attachment "A". This Contract together with the exhibit identified herein, shall constitute the entire agreement between the City of Norcross and Site Engineering, Inc. in respect to the project and may only be modified in writing signed by both parties. Receipt of the signed agreement will serve as a notice to proceed.
2. This Agreement entered into as of the day and year first written above.

**SITE ENGINEERING, INC.**

**CITY OF NORCROSS**

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
Bucky Johnson, Mayor

\_\_\_\_\_  
(Printed name and title)

\_\_\_\_\_  
Monique Lang, City Clerk

\_\_\_\_\_  
(SEAL)

\_\_\_\_\_

**City of Norcross**  
**Department of Public Works & Utilities**

**Request for Proposal (PWUP 16-03)**

**Sheffield Road Drainage Improvements**

The City of Norcross is seeking proposals for a qualified General Contractor to provide services to install a new drainage system for the City of Norcross. All sealed bids must be submitted by *Monday, May 23, @ 11:00 AM* to the address below: Please submit two hard (paper) copies and one soft (PDF or other electronic document on a CD) of your bid package to:

Mary Beth Bender, Director  
PWUP 16-03  
Department of Public Works, Utilities & Parks  
345 Lively Avenue  
Norcross, GA 30071

**General Description**

**The purpose of the Sheffield Road Drainage Improvements Project will be to install a new drainage system at the intersection of Sheffield Road and Lancelot Drive in the City of Norcross and a pipe runoff to the nearby drainage culvert under Sheffield Road. The project will include construction of a new 18-inch RCP drainage system and appurtenances, road paving, grading, erosion control, utility coordination, and traffic control. Limited work may be conducted on private property which may necessitate coordination with property owners. The City of Norcross will be responsible for acquisition of easements and environmental permits, if necessary.**

**BIDDERS ARE ADVISED TO THOROUGHLY UNDERSTAND THE GENERAL CONDITIONS AND SPECIAL PROVISIONS, PRIOR TO SUBMITTING THEIR BID**

**I. General Conditions**

**A. Qualifications**

1. Bids will be considered only from experienced and well-equipped Contractor(s) engaged in work of this type and magnitude.
2. Bidders may be required to submit evidence setting forth qualifications, which entitle his or her company for consideration as a responsible contractor. A list of work of similar character successfully completed within the last two years may be required giving the location, size and listing of equipment available

for use on this work. Before accepting any bid, the City may require evidence of the Contractor's financial ability to successfully perform the work to be accomplished under the contract.

**B. Guarantee to Accompany Bid**

1. Bids must be accompanied by a certified check or cashier's check or acceptable bid bond in an amount not less than five percent (5%) of the amount bid per section, and failure to submit a bid bond will be cause for rejection.

**C. Joint Ventures**

1. Joint Ventures between two contractors will not be allowed. The General Contractor shall be required to perform 100% of the work.

**D. Authority to Sign**

The Bidder should insure that the legal proper name of his proprietorship, firm, partnership and/or corporation is printed or typed in the space provided on the Schedule of items.

**E. Rights Reserved**

1. City of Norcross reserves the right to reject any and all Bids, to waive informalities or to re-advertise. It is understood that all Bids are made subject to this agreement, that City of Norcross reserves the right to decide which Bid it deems lowest and best. In arriving at this decision, full consideration will be given to the reputation of the Bidder, their financial responsibility, and work of this type successfully completed and past performance with the City of Norcross.
2. Bidders are advised to examine Plans and Specifications carefully and to make examinations of the site of the proposed work as are necessary to familiarize themselves with location conditions, which may affect the proposed work. Bidders are also advised to inform themselves fully in regard to conditions under which the work will be performed. The City of Norcross will not be responsible for the Bidders errors or misjudgment, nor for any information on location conditions or general laws and regulations.

3. Any unauthorized additions, conditions, limitations, or provisions attached to the Bid shall render it informal, and may be cause for rejection.

## **II. Award of Contract**

- A. The contract will be awarded to the lowest responsive and responsible bidder whose bid will be most advantageous to the City, price and other factors considered. The City is to make the determination.
- B. The bid evaluation will be made on the following criteria:
  - Bid price
  - Compliance with specifications
  - Qualifications of personnel
  - Commitment to complete work on a timely basis
  - References
- C. Prior to award of the Contract, the successful bidder will be required to submit a construction schedule to the City, demonstrating the bidder's ability to commence and proceed in a timely manner. A bidder's failure to demonstrate the ability to proceed as required may result in the award to the next lowest, responsive and responsible bidder, as deemed in the City's best interest.
- D. Failure to demonstrate the ability for contract execution and progression will result in, at the City's discretion, the award of any and/or all of the Bidder's contracts to the next lowest responsible bidder or the re-advertisement and re-bidding of any and/or all of these contracts.
- E. Prior to execution of a Contract, a Contract Performance Bond and a Payment Bond, each equal to 100% of the Contract amount per section, must be provided by the successful bidder by a surety company qualified to do business in the State of Georgia with an AM Best rating of B+ or higher and satisfactory to the City of Norcross. Bonds given shall meet the requirements as listed in this Bid package.

- F. Prior to execution of a Contract, a Utility Coordination Meeting is required between Contractor(s), utility agencies and City of Norcross Public Works to ensure clarity and commitments concerning inter-related construction work schedules. Please contact Donald Maxwell @ [donald.maxwell@norcrossga.net](mailto:donald.maxwell@norcrossga.net).

**III. Production Requirements**

- IV. Time is of the utmost importance of this project. The successful bidder will be required to commence work within twenty (20) calendar days from the receipt of the Notice to Proceed, and must carry on with utmost diligence in order to complete the work within 120 days for final completion.

**V. Retainage**

1. Retainage on work completed will be withheld by the City as follows:
  - a) The City shall retain 10% of the gross value of the completed work, indicated by current estimates, until all pay items are substantially completed.

**VI. Location and Site**

- A. The site of the proposed work is Sheffield Road located near Sheffield Road and Lancelot Drive within City of Norcross, Georgia. The Sheffield Road Technical Specifications and Construction Plans are included.
- B. The Contractor shall accept the site in its present condition and carry out all work in accordance with the requirements of the specifications as indicated on the drawings or as directed by the Department of Public Works.
- C. The Contractor, before submitting a bid is required to visit the site, and acquaint himself with the actual conditions and the location of any and/or all obstructions that may exist on the site. The site visit must be confirmed by the Superintendent of Storm Water ([donald.maxwell@norcrossga.net](mailto:donald.maxwell@norcrossga.net))
- D. The Contractor is responsible for the location of above and below ground utilities and structures, which may be affected by the work.

## **VI. Compliance with OSHA Standards and Regulations**

The work connected with this Contract shall be performed in accordance with all applicable OSHA regulations and standards including any additions or revisions thereto, until the job is completed and accepted by the City of Norcross.

## **VII. Materials**

- 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 completion of the Work.
- B. All materials and equipment incorporated into the Work 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.

## **VIII. Inspection**

City of Norcross does not commit to have a full time inspection or testing of work while in progress or at sources of materials furnished. Any lack of inspection and/or testing will in no way relieve the Contractor of his responsibility to provide quality workmanship in accordance with the specifications. Any test ordered under the supervision of the City that fail to meet standards and retesting is required will be at the Contractors expense.

## **XI. Contract Requirements**

1. Successful vendor is required to do the following within ten (10) days of Notice:
  - a) Return to Department of Public Works contract documents executed by the authorized representative attested by the corporate secretary treasurer.
  - b) Provide Insurance Certificates as specified in the bid documents.
  - c) Provide bonding as required by the bid documents
2. Failure to execute the Contract, Contract Performance Bond and Payment Bond, or furnish satisfactory proof of carriage of the insurance required within ten days after the date of Notice of Award of the Contract may be just cause for the annulment of the award and for the forfeiture of the bid guaranty of City of Norcross, not as a penalty, but as liquidation of damages sustained. At the

discretion of the City, the award may then be made to the next lowest, responsible bidder, or the work may be re-advertised or constructed by City forces. The Contract and Contract Bonds shall be executed in duplicate.

**X. Miscellaneous Provisions**

**A. Permits**

A Land Disturbance Permit is not required.

**B. Schedule**

The Contractor shall provide to [donald.maxwell@norcrossga.net](mailto:donald.maxwell@norcrossga.net) a schedule of construction activities. **The schedule must be presented at least seven (7) days prior to work commencing in order to notify residents.**

**C. Work Hours**

No work shall take place on Saturday or Sunday unless approved by the City of Norcross. The contractor shall submit to the City of Norcross a written request at least seven (7) days prior to the weekend work. The daily hours will be provided with the notice to proceed.

**D. Detour/Closures**

All road closures and detours shall be approved by the Norcross Department of Public Works.

**E. Residential Refuse**

The Contractor is required to contact Norcross Public Works department at 678-421-2069, to obtain sanitation schedules in an attempt to reduce inconveniences to the citizens of Norcross.

**G. Disposal of Refuse**

The Contractor shall be solely responsible for disposing of materials and shall take into account, before bidding the compliance with the above stated ordinances and regulations. Disposal of debris must be done in a lawful manner, in accordance with all applicable federal, state and/or local laws, statutes, rules, ordinances, and/or regulations. All trash and debris shall be collected and removed from the site(s) on a daily basis. The Contractor will not be permitted to burn any of the materials on site or within the boundary limits of Norcross Georgia.

## Requested Content

**All questions must be answered and the information given must be clear and comprehensive.** Add separate sheets if necessary. The written request should provide background information about the company, its employees, and its experience with related projects and related clients (especially governmental). The statement shall be submitted with bid.

- a. Name of Bidder
- b. Permanent main office address, email address, pertinent contact numbers.
- c. How long (years) has your firm been in the construction business under your present name; also state names and dates of previous firm names, if any; where organized?
- d. Attach a list of your employees with job titles, responsibilities, and years of experience as they relate the requirements of this bid document.
- e. How long do you warrant a project?
- f. Does your professional liability insurance coverage extend past the completion date and warrant of any project? If yes, for how long?
- g. Contract on hand (schedule – showing gross amount of each contract and the approximate anticipated dates of completion).
- h. General character of work performed by your company.
- i. Have you ever failed to complete any work awarded to you, if so, where and why?
- j. Have you ever defaulted on a Contract, if so, where and why?
- k. Have you ever failed to complete a project in the time allotment according to the Contract documents, if so, where and why?
- l. List the most important contracts recently executed by your company, stating approximate cost for each, and the month and year completed.
- m. List your major equipment available for this contract.
- n. List any subcontractors whom you would expect to use for the contract.
- o. With what bank do you do business? Do you grant the City permission to contract this/these situations? Latest Financial Statements, certified audit, if available, prepared by an independent certified public accountant, and may be requested by City. If requested, such statements must be provided within five (5) business days or the bid proposal will be rejected. Certified audited statement is preferred. Internal statements may be attached only if independent statements were not prepared.

**NON COLLUSION: VENDOR(S), BY SUBMITTING SIGNED BID, CERTIFY THAT THE ACOMPANYING BID IS NOT THE RESULT OF, OR AFFECTED BY, ANY UNLAWFUL ACT OF COLLUSION WITH ANY OTHER PERSON OR COMPANY ENGAGED IN THE SAME LINE OF BUSINESS OR COMMERCE, OR ANY OTHER FRAUDULENT ACT PUNISHABLE UNDER GEORGIA OR UNITED STATE LAW**

**Note:**

Please request bidding documents/specifications and submit questions via e-mail *only*.  
Submit questions/requests to Melissa Zeigler via e-mail at [melissa.zeigler@norcrossga.net](mailto:melissa.zeigler@norcrossga.net).

All questions/requests must be submitted via e-mail prior to May 16, 2016.

The City of Norcross reserves the right to reject any or all bids, to waive technicalities and to make an award as deemed in its best interest. We appreciate your interest in the City of Norcross.



**EXHIBIT A**

**E-Verify Contractor Affidavit under O.C.G.A § 13-10-91(b)(1)**

By executing this affidavit, the undersigned contractor representing the company known as \_\_\_\_\_ verifies its compliance with O.C.G.A §13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of the **City of Norcross** has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present and affidavit to the contractor with the information required by O.C.G.A § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
**Federal Work Authorization User Identification Number**  
(must be between 4 and 6 numerical values only)

\_\_\_\_\_  
**Date of Authorization**

\_\_\_\_\_  
**Name of Contractor**

\_\_\_\_\_  
**Name of Project**

\_\_\_\_\_  
**Name of Public Employer**

I hereby declare under penalty of perjury that the foregoing is true and correct.  
Executed \_\_\_\_\_, \_\_\_\_\_, 201\_\_ in Norcross, Georgia.

\_\_\_\_\_  
**Signature of Authorized Officer or Agent**

\_\_\_\_\_  
**Printed Name and Title of Authorized Officer or Agent**

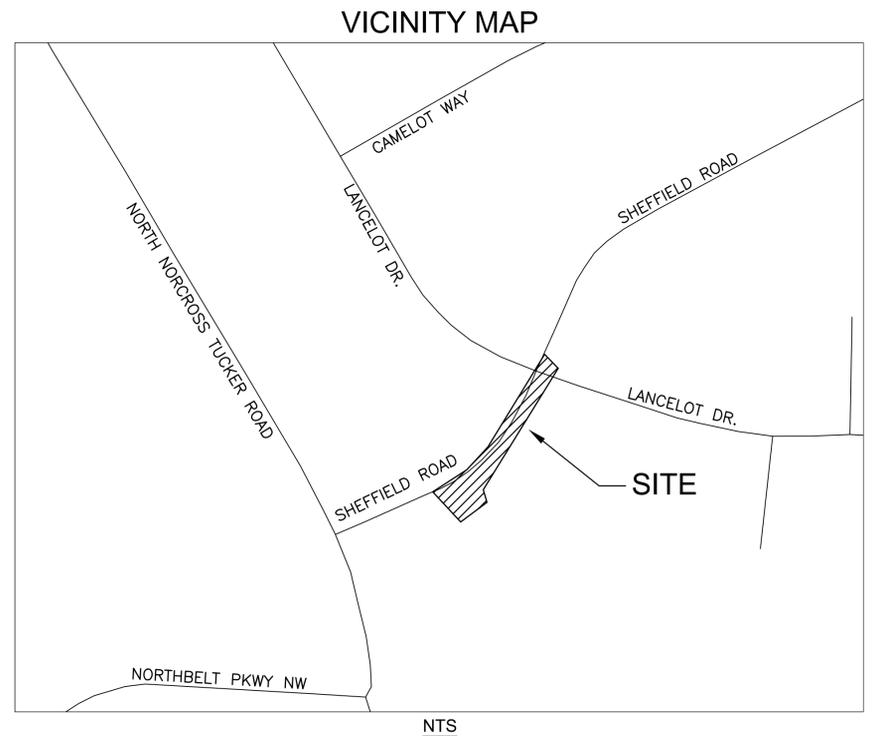
SUBSCRIBED AND SWORN BEFORE ME  
ON THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 201\_\_.

\_\_\_\_\_  
**NOTARY PUBLIC**

My Commission Expires: \_\_\_\_\_

# CONSTRUCTION PLANS FOR SHEFFIELD ROAD DRAINAGE IMPROVEMENTS

LOCATED IN LAND LOT 225 OF THE 6TH DISTRICT  
GWINNETT COUNTY, GEORGIA



PREPARED FOR  
**CITY OF NORCROSS**  
65 LAWRENCEVILLE ST., NORCROSS, GEORGIA 30071

MARCH 2016

SHEET INDEX	
SHEET #	TITLE
G-100	COVER
G-200	GENERAL NOTES
C-100	DEMOLITION PLAN
C-101	TRAFFIC CONTROL PLAN
C-200	SITE PLAN
C-250	STORM PROFILE
C-500	EROSION CONTROL NOTES
C-501	POLLUTION CONTROL NOTES
C-510	INITIAL EROSION CONTROL PLAN
C-520	INTERMEDIATE EROSION CONTROL PLAN
C-530	FINAL EROSION CONTROL PLAN
C-600	EROSION CONTROL DETAILS
C-601	EROSION CONTROL DETAILS
C-700	GENERAL CONSTRUCTION DETAILS
C-701	GENERAL CONSTRUCTION DETAILS

EVERGLADES TRAIL DRAINAGE IMPROVEMENTS			
DATE:	PROJECT #:		
3/4/16	1012.1505		
4	---	---	---
3	---	---	---
2	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16	WB
1	REVIEW SET - NOT FOR CONSTRUCTION	3/4/16	WB
Rev.	Description	Date	Apr.

**INTEGRATED Science & Engineering**

1039 Sullivan Road, Suite 200, Norcross, Georgia 30265  
(p)678.552.2106 (f)678.552.2107  
Atlanta/Savannah



DRAWING NUMBER:  
**G-100**

**GENERAL NOTES:**

1. OWNER: CITY OF NORCROSS  
65 LAWRECEVILLE STREET  
NORCROSS, GA. 30071  
CONTACT: MARY BETH BENDER (678) 421-2000
2. ENGINEER: INTEGRATED SCIENCE & ENGINEERING  
1039 SULLIVAN ROAD, SUITE 200  
NEWNAN, GA. 30265  
CONTACT: WADE BURCHAM (678) 552-2106 ext. 6103
3. TOPOGRAPHIC SURVEY BY INTEGRATED SCIENCE & ENGINEERING, INC.
4. ALL WORK SHALL CONFORM TO CITY OF NORCROSS AND ANY OTHER UTILITY AGENCIES STANDARDS AND SPECIFICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROPER OFFICIALS FOR ANY REQUIRED INSPECTIONS.
5. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY MONUMENTATION AND PRIMARY CONTROL. ANY SUCH POINTS WHICH THE CONTRACTOR BELIEVES WILL BE DESTROYED SHALL HAVE OFFSET POINTS ESTABLISHED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY MONUMENTATION DESTROYED BY THE CONTRACTOR SHALL BE REESTABLISHED AT HIS EXPENSE.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO: A.) PREVENT ANY DAMAGE TO PRIVATE PROPERTY AND PROPERTY OWNER'S POLES, FENCES, SHRUBS, ETC. B.) PROTECT ALL UNDERGROUND UTILITIES. C.) NOTIFY ALL UTILITY COMPANIES AND FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES PRIOR TO START OF CONSTRUCTION. NOTIFY OWNER OF ANY POTENTIAL CONFLICTS WHICH MAY EXIST BETWEEN THE EXISTING UTILITIES AND CONSTRUCTION PLANS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND PROCEDURES AND SHALL AT ALL TIMES TAKE ALL REASONABLE SAFETY PRECAUTIONS FOR THE SAFETY OF ITS EMPLOYEES ON THE PROJECT AND SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF FEDERAL, STATE, AND MUNICIPAL SAFETY LAWS AND BUILDING CONSTRUCTION CODE.
8. ANY DAMAGES THAT MAY OCCUR TO REAL PROPERTY OR EXISTING IMPROVEMENTS SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE REAL PROPERTY OR EXISTING IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL; MOREOVER, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR BEYOND THAT SPECIFIED IN THE CONTRACT UNLESS SPECIFICALLY AUTHORIZED IN A DULY EXECUTED CHANGE ORDER. RESTORATION SHALL INCLUDE, BUT NOT BE LIMITED TO, REGRASSING, REVEGETATION, REPLACING FENCES, REPLACING TREES, ETC.
9. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING WORK IN ORDER TO FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.

**GRADING/CONSTRUCTION NOTES:**

1. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL UTILITIES BEFORE CONSTRUCTION AND VERIFYING LOCATION OF ALL UTILITIES SHOWN OR NOT SHOWN IN THE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEBRIS AS ACCEPTABLE TO THE OWNER AND IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS.
3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURBS, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
4. SLOPES AND DISTURBED AREAS NOT COVERED BY PAVEMENT SHALL BE GRADED SMOOTH. THE AREAS SHALL BE SEEDED AND COVERED WITH MATTING AS DESIGNATED ON PLANS AND WATERED TO PROVIDE A HEARTY, MOWABLE STAND OF GRASS. SMALL ROCKS AND DEBRIS MUST BE REMOVED. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
5. MAXIMUM SLOPES ON CUT OR FILL SECTIONS SHALL NOT EXCEED 2:1 EXCEPT WHERE INDICATED.
6. INSUFFICIENT FILL MATERIAL: IF QUANTITY/QUALITY OF GRADING MATERIAL IS INSUFFICIENT TO PROVIDE FINISH GRADE ELEVATIONS AS INDICATED ON DRAWINGS, THE CONTRACTOR SHALL OBTAIN ADDITIONAL FILL MATERIAL OF SPECIFIED QUALITY AS APPROVED BY THE OWNER. OBTAINING, PLACING AND HAULING OF ADDITIONAL FILL MATERIAL SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER UNLESS AUTHORIZED BY EXECUTED CHANGE ORDER.
7. EXCESS CUT MATERIAL: IF QUANTITY OF GRADING MATERIAL IS IN EXCESS OF THE QUANTITIES NECESSARY TO PROVIDE FINISH GRADE ELEVATIONS AS INDICATED ON DRAWINGS, THE CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF THE EXCESS MATERIAL AT NO ADDITIONAL COST TO THE OWNER UNLESS AUTHORIZED BY EXECUTED CHANGE ORDER.
8. INSTALL TREE/NATURAL VEGETATION PROTECTION FENCE PRIOR TO ANY LAND DISTURBING ACTIVITIES. SEE PLAN SHEETS FOR EROSION CONTROL MEASURES.
9. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARDS OR OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL PROVIDE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING.
10. THE CONTRACTOR SHALL REINSTALL ANY SIGNS OR MAILBOXES REMOVED TO ACCOMMODATE CONSTRUCTION. THE AFORMENTIONED ITEMS SHALL BE REINSTALLED TO THEIR ORIGINAL LOCATION. IF THE ITEMS CANNOT BE, FOR ONE REASON OR ANOTHER, THE CONTRACTOR SHALL COORDINATE A NEW LOCATION WITH APPROPRIATE CITY PERSONNEL.

**UTILITY NOTES:**

1. EXISTING UTILITY LOCATIONS SHOWN ARE GENERALLY SCHEMATIC IN NATURE AND MAY NOT ACCURATELY REFLECT THE SIZE AND LOCATION OF EACH PARTICULAR UTILITY. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ACTUAL FIELD LOCATION AND PROTECTION AND REPAIRS OF EXISTING FACILITIES, WHETHER SHOWN OR NOT. DIFFERENCES IN HORIZONTAL OR VERTICAL LOCATIONS OF EXISTING UTILITIES SHALL NOT BE BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR.
2. EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND SHOULD BE VERIFIED FOR LOCATION AND NUMBER BY THE CONTRACTOR.



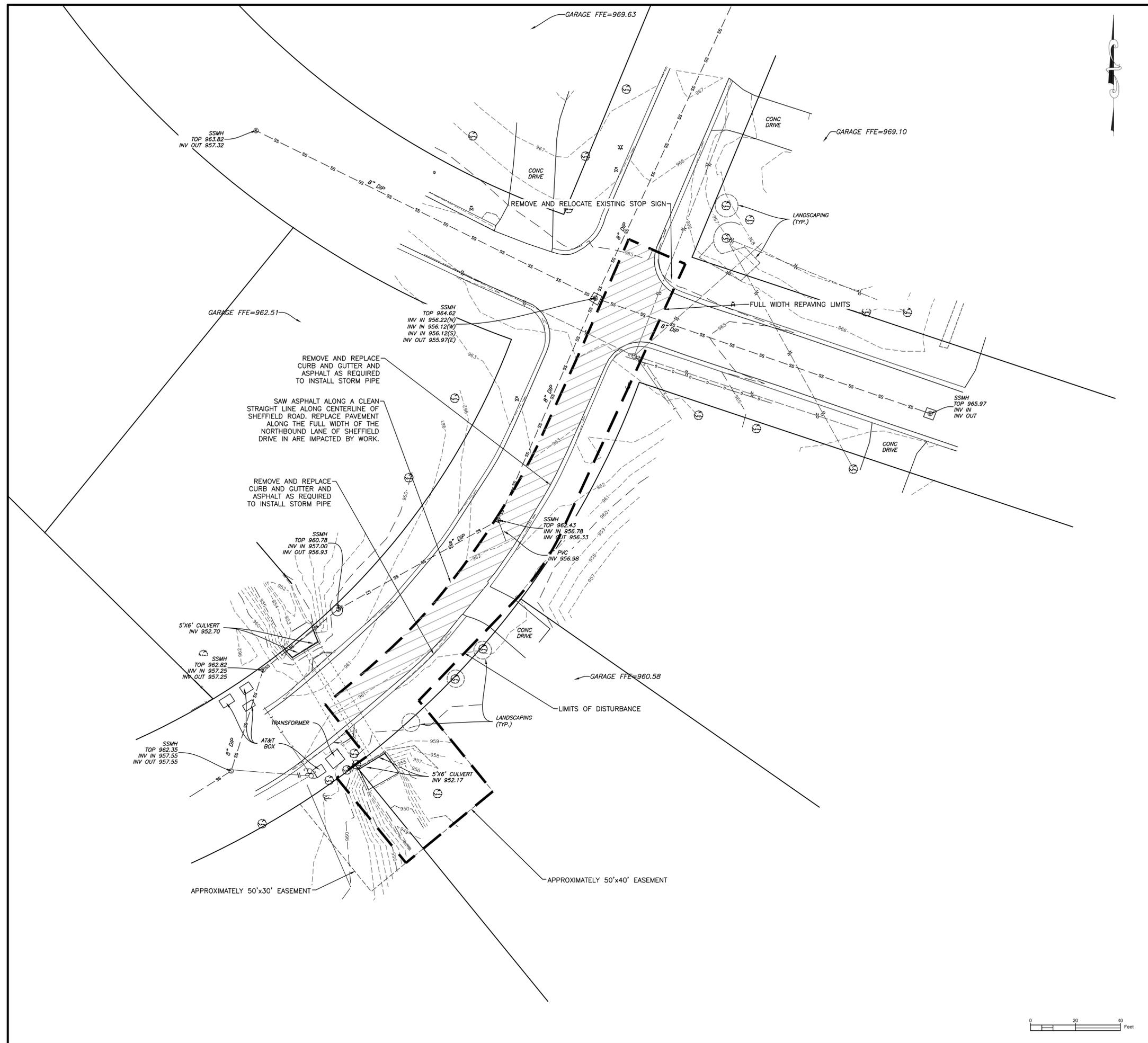
Rev.	Description	Date
1	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
2	REVISION SET - NOT FOR CONSTRUCTION	3/4/16
3		
4		
5		
6		
7		
8		

CONSTRUCTION PLANS  
FOR  
SHEFFIELD ROAD  
DRAINAGE IMPROVEMENTS

LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

GENERAL NOTES

DRAWING NO.  
G-200



LEGEND

	EXISTING CONTOUR
	PROPOSED CONTOUR
	EXISTING UTILITY POLE
	EXISTING STORM PIPE
	PROPERTY LINE
	EXISTING SANITARY SEWER
	EXISTING WOODEN FENCE
	CONSTRUCTION FENCE
	LIMITS OF DISTURBANCE
	EXISTING OVERHEAD ELECTRICAL LINE
	EXISTING TELECOMMUNICATION LINE
	EXISTING GAS LINE
	EXISTING WATER LINE
	EXISTING UNDERGROUND ELECTRIC
	WATER VALVE
	FIRE HYDRANT
	WATER METER BOX



Rev.	Description	Date
1	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
2	REVIEW SET - NOT FOR CONSTRUCTION	3/4/16

Drawn by: DWB  
 Check by: DWB  
 Design #: 1012.1505  
 DWB  
 Review by: DWB  
 Date: 3/4/16  
 Scale: 1" = 20'  
 20' 0' 20'  
 10' 0' 20'  
 SCALE: 1" = 20'

CONSTRUCTION PLANS  
 FOR  
**SHEFFIELD ROAD**  
**DRAINAGE IMPROVEMENTS**  
 LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

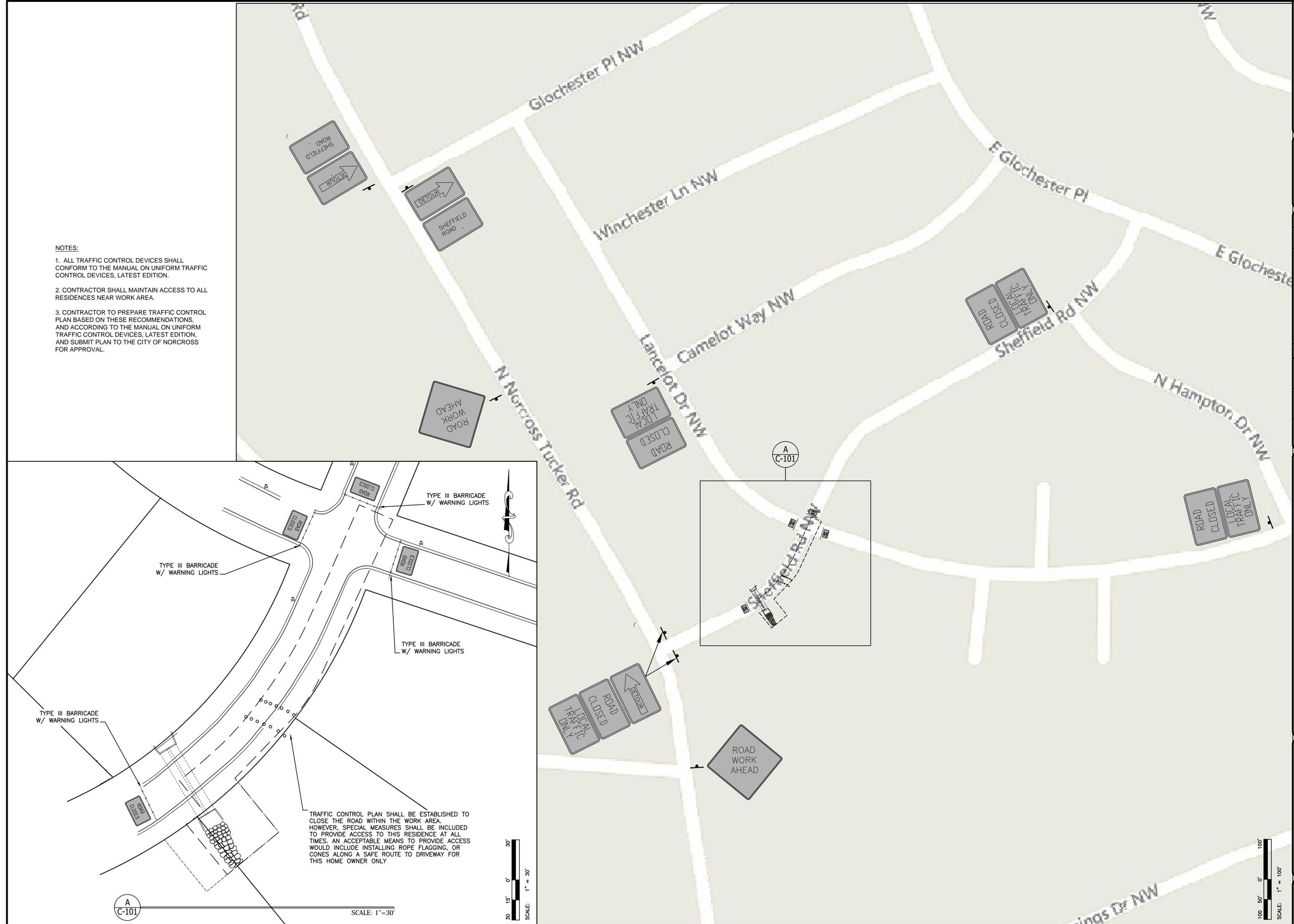
DEMOLITION PLAN

Rev.	Description	Date
1	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
2	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
3	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
4	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
5	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
6	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
7	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
8	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16

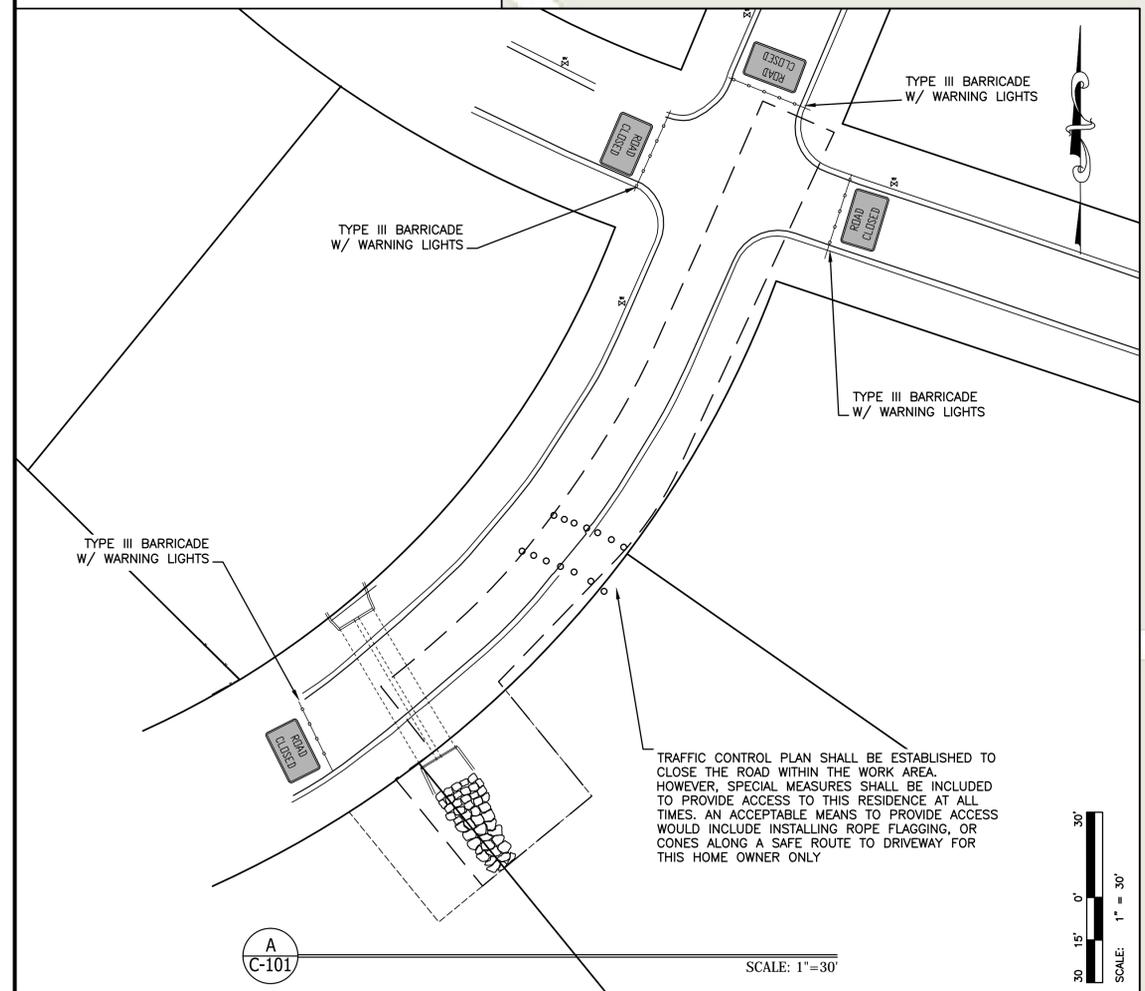
CONSTRUCTION PLANS  
 FOR  
**SHEFFIELD ROAD**  
 DRAINAGE IMPROVEMENTS  
 LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

TRAFFIC CONTROL PLAN

DRAWING NO.  
**C-101**



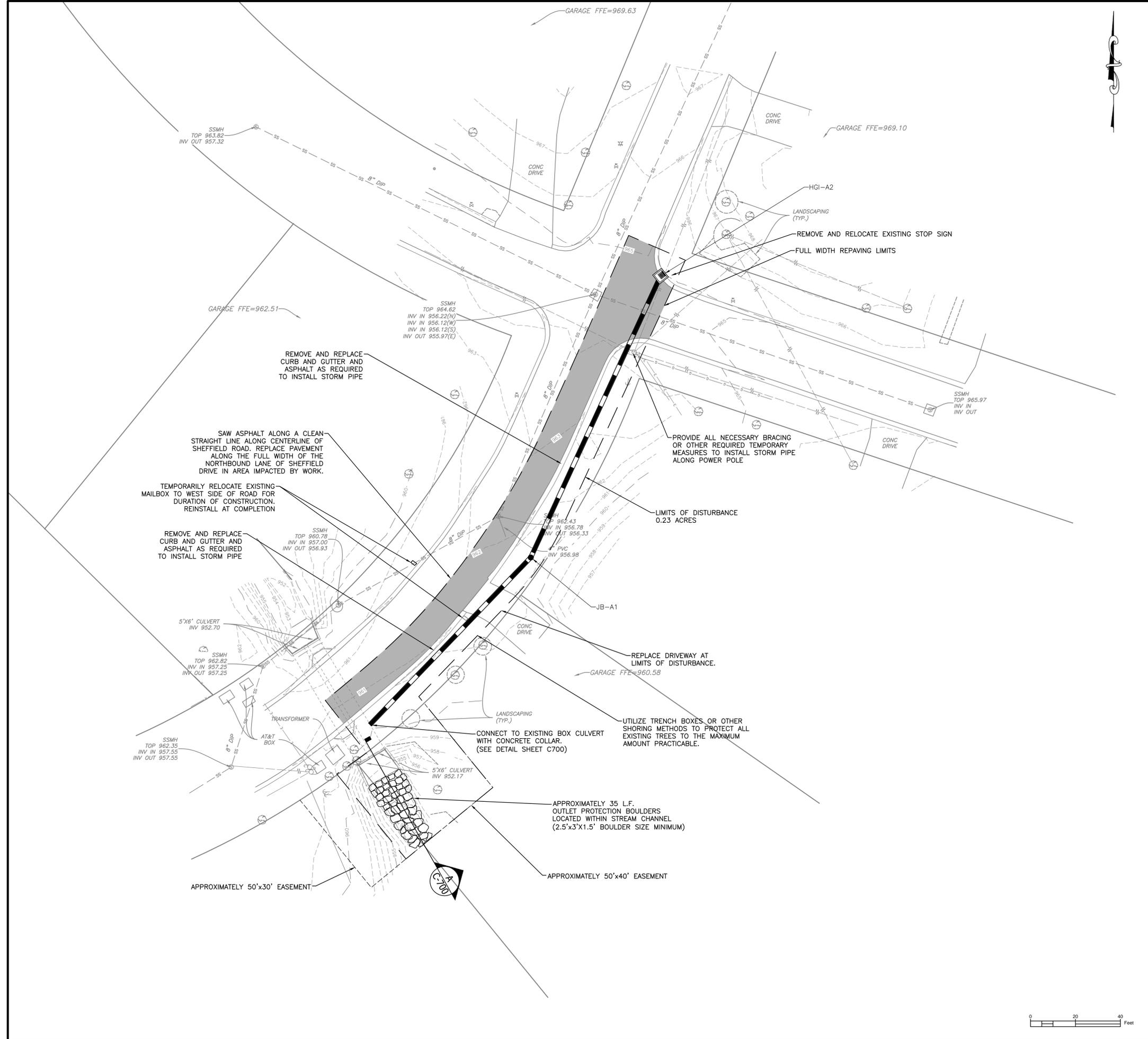
- NOTES:**
1. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
  2. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL RESIDENCES NEAR WORK AREA.
  3. CONTRACTOR TO PREPARE TRAFFIC CONTROL PLAN BASED ON THESE RECOMMENDATIONS, AND ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND SUBMIT PLAN TO THE CITY OF NORCROSS FOR APPROVAL.



Rev.	Description	Date
1	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
2	REVIEW SET - NOT FOR CONSTRUCTION	3/4/16
3		
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CONSTRUCTION PLANS FOR SHEFFIELD ROAD DRAINAGE IMPROVEMENTS  
 LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

SITE PLAN

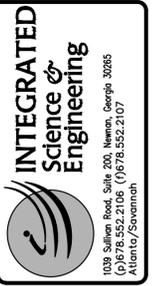
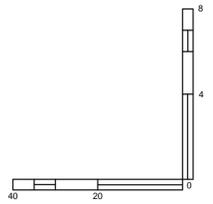
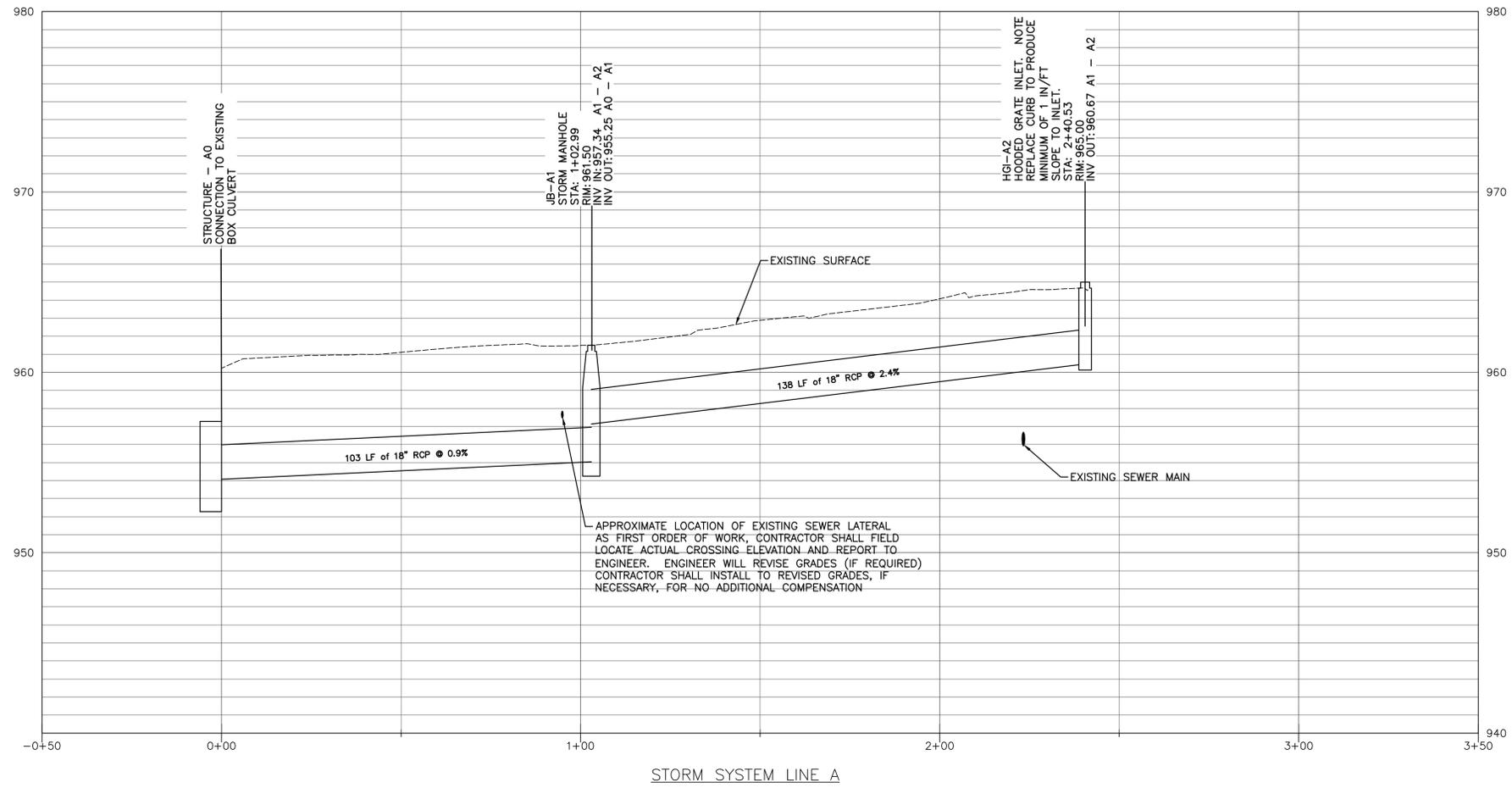


- NOTES:**
1. THE CONTRACTOR IS RESPONSIBLE FOR CONTROL OF STORMWATER AND DEWATERING THE PROJECT SITE SUFFICIENT TO ACCOMMODATE THE WORK SHOWN IN THESE PLANS. CONTROL OF STORMWATER AND PROJECT SITE DEWATERING MAY INCLUDE TEMPORARY PIPING, BYPASS PUMPING AND OTHER MEANS AND METHODS. PRIOR TO BEGINNING ANY DEMOLITION WORK, THE CONTRACTOR SHALL SUBMIT A STORMWATER CONTROL AND DEWATERING PLAN TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO START OF CONSTRUCTION.
  2. CONTRACTOR SHALL CONTACT THE LOCAL UTILITIES PROTECTION CENTER PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY UTILITIES THAT MAY BE IN CONFLICT WITH DEMOLITION ACTIVITIES SHALL BE FIELD VERIFIED. ANY INTERRUPTIONS TO UTILITIES SHALL BE COORDINATED WITH ADJOINING PROPERTY OWNERS AND UTILITY PROVIDER PRIOR TO INTERRUPTION. CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO ANY UTILITIES.
  3. IT IS THE CONTRACTORS RESPONSIBILITY TO COORDINATE OPERATIONS WITH ALL UTILITIES WHICH MAY BE IN CONFLICT WITH THE WORK. THE CONTRACTOR MUST MAINTAIN AND PROTECT ALL SUCH UTILITIES, OR RELOCATE UTILITIES AS NEEDED.
  4. CONTRACTOR SHALL REINSTALL ALL SIGNS REMOVED DURING THE COURSE OF WORK.
  5. SOME OF THE WORK SHOWN ON THIS SHEET AND WITHIN THESE PLANS WILL OCCUR IN CLOSE PROXIMITY TO OCCUPIED RESIDENTIAL STRUCTURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ANY WORK RELATED DAMAGES THAT MAY OCCUR TO THE STRUCTURES DURING THE COURSE OF WORK.
  6. CONTRACTOR TO UTILIZE TRENCH SHORING (I.E. TRENCH BOXES TO LIMIT DISTURBANCE TO SMALLEST AREA POSSIBLE.
  7. CONTRACTOR TO RESTORE OR REPLACE IN KIND ANY LANDSCAPING DISTURBED AS PART OF THIS PROJECT.

**LEGEND**

— 972 —	EXISTING CONTOUR
- - - 972 - - -	PROPOSED CONTOUR
⊕	EXISTING UTILITY POLE
- - - - -	EXISTING STORM PIPE
- - - - -	PROPERTY LINE
- - - SS - - -	EXISTING SANITARY SEWER
— ○ —	EXISTING WOODEN FENCE
— X —	CONSTRUCTION FENCE
— — —	LIMITS OF DISTURBANCE
— — — — —	EXISTING OVERHEAD ELECTRICAL LINE
— — — — —	EXISTING TELECOMMUNICATION LINE
— — — — —	EXISTING GAS LINE
— — — — —	EXISTING WATER LINE
— — — — —	EXISTING UNDERGROUND ELECTRIC
⊗	WATER VALVE
⊕	FIRE HYDRANT
⊕	WATER METER BOX





Rev.	Description	Date	Appr.
3			
2			
1			

Drawn By:	Check By:
Design By:	Review By:
Project #:	
1012.1505	

CONSTRUCTION PLANS  
FOR  
SHEFFIELD ROAD  
DRAINAGE IMPROVEMENTS

LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

STORM PROFILE

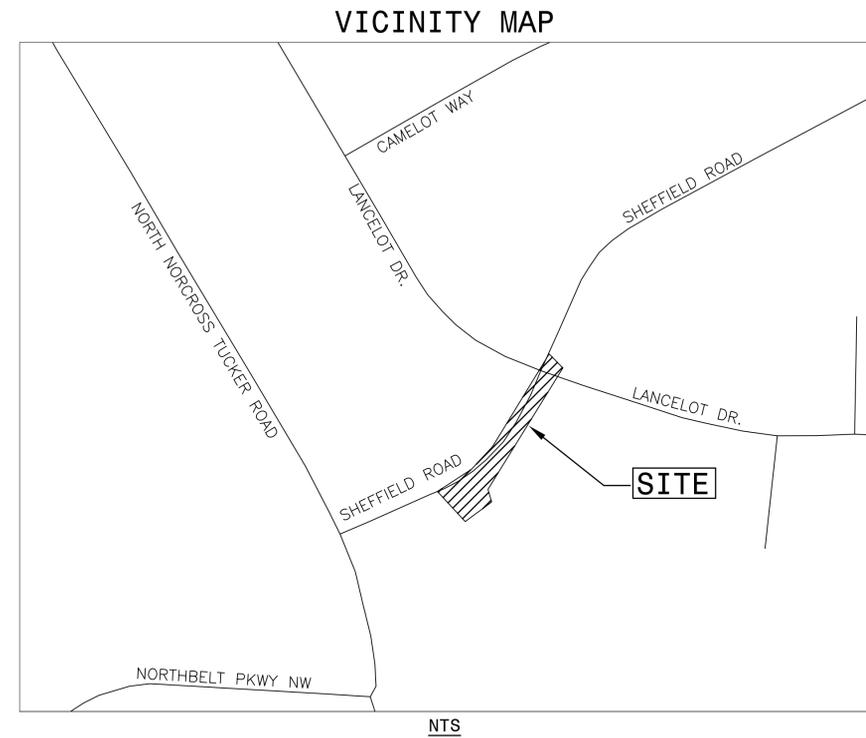
DRAWING NO.  
**C-250**

- THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES.
- EROSION CONTROL MEASURES MUST BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
- ALL EROSION CONTROL MEASURES ARE TO CONFORM TO THE STANDARDS SET FORTH IN THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" 5TH EDITION.
- EROSION CONTROL DEVICES SHALL BE INSTALLED BEFORE GROUND DISTURBANCE OCCURS. THE LOCATION OF SOME OF THE EROSION CONTROL DEVICES MAY HAVE TO BE ALTERED FROM SHOWN ON THE APPROVED PLANS. IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE FINAL PROPOSED DRAINAGE PATTERNS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION.
- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.
- SEDIMENT CONTROL MEASURES MUST BE INSTALLED BEFORE CLEARING AND GRADING BEGINS.
- INSPECTIONS BY QUALIFIED PERSONNEL PROVIDED BY PRIMARY PERMITTEE AND THE ASSOCIATED RECORDS SHALL BE KEPT ON SITE IN COMPLIANCE WITH NPDES PERMIT NUMBER GAR 100002.
- DESIGN PROFESSIONAL OF RECORD SHALL INSPECT THE SITE WITHIN 7 DAYS OF THE CONSTRUCTION START DATE. THE PRIMARY PERMITTEE SHALL NOTIFY THE DESIGN PROFESSIONAL OF THE CONSTRUCTION START DATE PRIOR TO THAT START DATE.
- THERE ARE STATE WATERS LOCATED IN THE PROJECT AREA. NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
- ANY AMENDMENT / REVISION TO THE ES&PC PLAN THAT HAVE A SIGNIFICANT EFFECT ON AN EROSION AND SEDIMENT CONTROL BMP THAT HAS A HYDRAULIC COMPONENT IS REQUIRED TO BE DESIGNED BY THE DESIGN PROFESSIONAL OF RECORD.
- THE PRIMARY PERMITTEE IS REQUIRED TO KEEP THE ES&PC PLAN UP-TO-DATE.
- NO CRITICAL AREAS ON THE PROJECT SITE REQUIRE ADDITIONAL MEASURES TO BE UTILIZED OTHER THAN THOSE NOTED HEREIN.
- ALL PERSONS INVOLVED IN LAND DISTURBING ACTIVITIES MUST BE CERTIFIED IN EROSION & SEDIMENT CONTROL BY THE GSWCC OR SUPERVISED BY SOMEONE WHO IS.
- THE PROJECT RECEIVING WATERS IS A TRIBUTARY TO LINE CREEK. THE RECEIVING WATERS WILL NOT BE IMPACTED BY THE PROJECT.
- PETROLEUM PRODUCTS SHALL NOT BE STORED ONSITE. ANY PETROLEUM SPILLS OR LEAKS SHALL BE IMMEDIATELY CLEANED UP BY THE CONTRACTOR AND ALL WASTE CLEANUP MATERIALS LEGALLY DISPOSED INCLUDING CONTAMINATED SOIL. THE CONTRACTOR SHALL HAVE SPILL RESPONSE KITS ONSITE DURING CONSTRUCTION.
- WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
- THIS ES&PC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER AND SEPTIC TANK REGULATIONS FOR ALL PHASES.

### Maintenance

- Inspections by a qualified personnel provided by the primary permittee and the associated records shall be kept on-site in compliance with GAR 100002.
- Inspections of erosion control measures will be performed and corrective action taken when needed as required by the plan.
- The permittee shall maintain all erosion control measures until permanent vegetation has been established.
- The permittee shall clean out all sediment storage areas when required by the "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA".
- Accumulated silt shall be removed when the silt is within 12" of the top of the silt fence utilized for erosion control.

CONSTRUCTION SCHEDULE			
ITEM	MONTH 1	MONTH 2	MONTH 3
PHASE I E&S			
TEMP. ROAD INSTALL			
BOX CULVERT INSTALL			
GRADING			
STABILIZATION			
CLEANUP			



### DRAINAGE AREA MAP



OWNER/DEVELOPER: CITY OF NORCROSS  
65 LAWRENCEVILLE STREET  
NORCROSS, GEORGIA 30071

CONTRACTOR: TBD

CIVIL ENGINEER: INTEGRATED SCIENCE & ENGINEERING  
1039 SULLIVAN ROAD, SUITE 200  
NEWNAW, GEORGIA 30265  
678-552-2106

Contact: NAME: JOHN DAVIS  
PHONE: 678-421-2069

24 Hour Contact: TBD

Contact: NAME: WADE BURCHAM, PE  
PHONE: 678-552-2106

### Site Description and Location:

SHEFFIELD ROAD IS LOCATED IN THE CITY OF NORCROSS, IN GWINNETT COUNTY. NORCROSS TUCKER ROAD IS LOCATED TO THE WEST OF SHEFFIELD ROAD, BUFORD HWY IS NORTH OF SHEFFIELD ROAD AND I-85 IS SOUTH OF SHEFFIELD ROAD.

### Construction Site Area:

TOTAL SITE AREA: .90 AC  
TOTAL AREA OF DISTURBANCE: .90 AC

### Soil Types:

AmC2 - APPLING SANDY LOAM  
Cfs - CHEWACLA SILT LOAM  
PgD2 - PACOLET SANDY CLAY LOAM  
WtE2 - WEDOWEE SANDY LOAM

### Project Description:

SHEFFIELD ROAD SERVES AS A POINT OF ACCESS TO NORCROSS TUCKER ROAD FOR A RESIDENTIAL SUBDIVISION, WITH ONE OTHER PRIMARY ROUTE OF ACCESS FOR RESIDENTS TO EXIT THE SUBDIVISION. CURRENTLY, STORMWATER RUNOFF IS PONDING AT THE INTERSECTION OF SHEFFIELD ROAD AND LANCELOT DRIVE, BEFORE DRAINING TO AN EXISTING INLET AT ROAD CULVERT CROSSING UNDER SHEFFIELD ROAD. ADDITIONALLY, EROSION CONTROL MEASURES UNDER SHEFFIELD ROAD HAVE FAILED. THIS PROJECT AIMS TO CORRECT BOTH OF THESE ISSUES WITH AN ADDITIONAL STORM INLET AT THE INTERSECTION, AND A STILLING BASIN AT THE OUTLET OF THE CULVERT.

### Wetlands:

WETLANDS ARE NOT PRESENT ON THE SITE

### State Waters:

STATE WATERS ARE WITHIN THE SITE BOUNDARY.

### Drainage Description:

PROPOSED DRAINAGE IMPROVEMENTS WILL IMPROVE DRAINAGE IN THE INTERSECTION OF LANCELOT ROAD AND SHEFFIELD ROAD BY ADDITION OF A HOODED GRATE INLET. THIS INLET WILL DRAIN TO A BOX CULVERT UNDER SHEFFIELD ROAD, WHICH CURRENTLY DRAINS AN APPROXIMATELY 200 ACRE BASIN.

### Slopes After Grading:

ANY SLOPES LOCATED WITHIN THE SITE AREA WILL BE STABILIZED WITH EROSION CONTROL MATTING AND/OR SHRUB PLANTING.

### Erosion Control Measures:

EROSION CONTROL MEASURES STRUCTURAL AND NONSTRUCTURAL CONTROLS WILL BE USED ONSITE TO PREVENT EROSION DURING CONSTRUCTION INCLUDING TEMPORARY GRASSING, SILT FENCING, CONSTRUCTION ENTRANCE, AND OTHER MEASURES AS NECESSARY TO LIMIT SEDIMENT DISCHARGE FROM THE SITE. PLEASE REFER TO THE EROSION CONTROL PLANS (SHEET NO. C-510 - C-530) FOR SPECIFIC INFORMATION.

THE PRIMARY AND SECONDARY PERMITTEE SHALL MAKE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS AVAILABLE UPON REQUEST TO DESIGNATED OFFICIALS OF THE LOCAL GOVERNMENT. INSPECTIONS SHALL BE DONE BY A QUALIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE AND THE ASSOCIATED RECORDS SHALL BE KEPT ON-SITE IN COMPLIANCE WITH GAR 100002.

### Engineer Certification

"I certify under penalty of law that this plan was prepared after a site visit to the location described herein by myself or my authorized agent, under my direct supervision.

"I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia," (published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the storm water outfalls and that the designed system of best management practices and sampling methods is expected to meet the requirements contained in the General NPDES Permit No. GAR 100002."

Design professional of record shall inspect the site within 7 days of the construction start. The primary permittee shall notify the design professional of the construction start date prior to that start date.

*Wade Burcham* DATE: 4/7/16  
D. WADE BURCHAM P.E. #: 033445 GSW CC#: 0000075363



Rev.	Description	Date
1	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
2	REVIEW SET - NOT FOR CONSTRUCTION	3/4/16
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CONSTRUCTION PLANS FOR SHEFFIELD ROAD DRAINAGE IMPROVEMENTS  
LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

EROSION CONTROL NOTES

DRAWING NO. C-500

# POLLUTION CONTROL AND PREVENTION

## OTHER CONTROLS:

**WASTE MATERIALS** – ALL WASTE MATERIALS WILL BE COLLECTED AND STORED IN A METAL DUMPSTER AS PROVIDED BY A LICENSED SOLID WASTE MANAGEMENT COMPANY. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED IN THE DUMPSTER. NO CONSTRUCTION WASTE MATERIALS WILL BE BURIED ON SITE. THE SITE SUPERINTENDENT IS TO INSTRUCT ALL SITE PERSONNEL AS TO THE CLEAN UP OF WASTE MATERIALS AND INSPECT SUCH AS PART OF DAY-TO-DAY OPERATIONS.

**HAZARDOUS WASTE** – ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF AS SPECIFIED BY LOCAL OR STATE REGULATIONS OR MANUFACTURER.

**SANITARY WASTE** – ALL SANITARY WASTE TO BE COLLECTED AND DISPOSED OF BY A LICENSED COMPANY PERFORMING SUCH SERVICES.

**OFFSITE VEHICLE TRACKING** – A STABILIZED ROCK CONSTRUCTION ENTRANCE WILL BE PROVIDED TO REDUCE VEHICLE TRACKING OF SEDIMENT ONTO THE EXISTING ROADWAYS AND WILL BE SWEEPED DAILY OR AS NEEDED TO REMOVE ANY EXCESS MUD, DIRT OR ROCK TRACKED FROM THE SITE. ALL TRUCKS HAULING MATERIAL FROM THE SITE WILL BE CLEANED OF LOOSE MATERIAL AND LOADS SECURED AND COVERED WITH A TARP.

## NON-STORM DISCHARGES:

- PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED).
- WASH-OUT FROM CONCRETE TRUCK DRUM WASH.

ALL NON-STORM WATER DISCHARGES WILL BE DIVERTED TO THE DETENTION AND SEDIMENT BASINS, WHERE POSSIBLE, PRIOR TO DISCHARGE. WHERE NON-STORM WATER DISCHARGES CANNOT BE DIRECTED TO BASINS, THEN A TEMPORARY POOL OR DIKE OF DIRT, SILT FENCE OR GRINDINGS WILL BE CONSTRUCTED TO FILTER/SETTLE OUT DISCHARGED WATER.

## INVENTORY FOR POLLUTION PREVENTION PLAN:

THE MATERIALS OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION: **CONCRETE, DETERGENTS, METAL PIPE, PVC PIPE, DUCTILE IRON PIPE, TAR, FERTILIZERS, PETROLEUM BASED PRODUCTS, CLEANING SOLVENTS, WOOD, MASONRY BLOCK, BRICKS**

## SPILL PREVENTION:

**MATERIAL MANAGEMENT PRACTICES:** THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

## GOOD HOUSEKEEPING:

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.

- AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.
- ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE
- PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.
- SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
- WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.
- MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.
- THE SITE SUPERINTENDENT WILL INSPECT DAILY TO ENSURE PROPER USE AND DISPOSAL OF MATERIALS ONSITE.

## HAZARDOUS PRODUCTS:

THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

- PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.
- ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED SINCE THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
- IF SURPLUS PRODUCT MUST BE DISPOSED OF, MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL SHALL BE FOLLOWED.

## PRODUCT SPECIFIC PRACTICES:

THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:

**PETROLEUM PRODUCTS:** ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

**FERTILIZERS:** FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

**PAINTS:** ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.

**CONCRETE TRUCKS:** CONCRETE TRUCKS TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER TO ON SITE TEMPORARY WASHOUT FACILITY OR OTHER TEMPORARY FILTER/SETTLE OUT BASINS.

## SPILL CONTROL PRACTICES:

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN PREVIOUS SECTIONS OF THE PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:

- MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND SITE PERSONNEL WILL BE MADE AWARE OF PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
- MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAW-DUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.
- ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.

## SPILL CONTROL PRACTICES: (Continued)

- THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.
- SPILLS OF TOXIC OR HAZARDOUS MATERIAL SHALL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY, REGARDLESS OF THE SIZE.
  - THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.
- THE SITE SUPERINTENDENT IS RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS AND WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR.

## PETROLEUM SPILLS, LEAKS, AND REMEDIATION:

**PETROLEUM BASED PRODUCT CONTAINERS SUCH AS FUELS, LUBRICANTS AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ON-SITE VEHICLE AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATERS, NATURAL DRAINS AND STORM WATER INLETS. ANY TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT DEVICE, I.E., COVERED WEATHERPROOF AND LEAKPROOF METAL CONCRETE OR SIMILAR ENCLOSURE WITH STORAGE CAPACITY GREATER THAN THE HOLDING TANK (S). ALL PETROLEUM RELATED SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY. MATERIAL TO CLEAN UP INCIDENTAL SPILLS OR EQUIPMENT RUPTURE OF HYDRAULIC OR FUEL SYSTEM COMPONENTS SHALL BE LOCATED AND STORED ON-SITE IN A PROTECTIVE ENCLOSURE. CLEAN UP MATERIALS AND EQUIPMENT SHALL INCLUDE SUCH ITEMS AS:**

- SEVERAL EMPTY, RESEALABLE 5 GALLON BUCKETS AND AT LEAST ONE REMOVABLE TOP, RESEALABLE 55 GALLON DRUM.
- SEVERAL OPEN TOP CONTAINERS OR BUCKETS TO CATCH HYDRAULIC OR FUEL LEAKS.
- ADSORBENT OR ABSORBENT MATERIALS SUCH AS:
  - BALED STRAW
  - SORBENT PADS, BLANKETS, PILLOWS, ROLLS
  - MINERAL PRODUCTS – DIATOMACEOUS EARTH, VERMICULITE, OIL DRY
- SHOVELS, SCOOPS, RAKES, HOES.

ALL SPILL CLEAN-UP WASTE MATERIAL SHALL BE PLACED IN SUITABLE CONTAINERS AND DISPOSED OF IN AN APPROVED LANDFILL OR OTHER APPROVED DISPOSAL METHODS PER LOCAL AND GEORGIA EPD REGULATIONS.

ALL EQUIPMENT OPERATORS AND OTHER ON-SITE PERSONNEL, IN PARTICULAR AND IN THEIR LANGUAGE, SHALL BE INSTRUCTED BY THE SITE SUPERINTENDENT ON LOCATION AND TYPE OF CLEAN UP MATERIALS, WHAT SPILLS TO LOOK FOR AND BE AWARE OF AND HOW TO CLEAN UP AND DISPOSE OF SPILL WASTE.

# STATE AND LOCAL COMPLIANCE

- ANY SEWER OR SEPTIC SYSTEM SHALL BE APPROVED AND INSPECTED BY THE LOCAL PERMITTING AUTHORITY.
- PER LOCAL PERMITTING AUTHORITY NO TREES, STUMPS, CONSTRUCTION DEBRIS, HAZARDOUS WASTE OR LIQUIDS SHALL BE BURIED OR DISPOSED OF ON SITE OR ALLOWED TO BE DISCHARGED TO AREAS ADJACENT TO SITE.
- ADHERANCE TO THE CONSTRUCTION PLANS AND NOTES IS EXPECTED TO ENSURE THE SITE WILL BE IN COMPLIANCE WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS.

# WASTE MATERIALS

- ANY AND ALL WASTE MATERIAL, HAZARDOUS OR NON-HAZARDOUS, INCLUDING BUT NOT LIMITED TO BUILDING MATERIALS, CONSTRUCTION AND DEMOLITION DEBRIS, CONCRETE WASHOUT, EXCAVATED SEDIMENT, SANITARY WASTE, ETC. SHALL BE DISPOSED OF IN APPROVED LANDFILLS OR BY OTHER APPROVED WASTE DISPOSAL METHODS. THE HANDLING AND DISPOSAL OF SUCH WASTE SHALL BE BY QUALIFIED, LICENSED INDIVIDUALS OR ORGANIZATIONS. ANY DISPOSAL OF WASTE, SOLID OR LIQUID, TO THE WATERS OF THE STATE IS PROHIBITED UNLESS AUTHORIZED BY A SECTION 404 PERMIT.

# EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST	
INFRASTRUCTURE CONSTRUCTION PROJECTS	
Project Name: _____ SHEFFIELD DRAINAGE IMPROVEMENTS	Address: _____ Sheffield Road, Norcross, GA
City/Country: _____ Norcross, Ga/instret	Date on Plans: _____ 2/26/2016
TO BE SHOWN ON ESAPC PLAN	
Plan Page #	Included Y/N
ES00	Y
ES00-ES30	Y
ES00	Y
ES00	Y
ES30-ES30	Y
ES00	Y
N/A	N/A
ES00	Y
ES00	Y
N/A	N/A
N/A	N/A
ES00	Y
ES00	Y
N/A	N/A
N/A	N/A
ES01	Y
N/A	N/A
N/A	N/A

ES00	Y	28 Description and chart or timeline of the intended sequence of major activities which detail tasks for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).
N/A	N/A	29 Provide complete requirements of inspections and record keeping by the primary permittee.*
N/A	N/A	30 Provide complete requirements of sampling frequency and reporting of sampling results.*
N/A	N/A	31 Provide complete details for retention of records as per Part IV.F. of the permit.*
N/A	N/A	32 Description of analytical methods to be used to collect and analyze the samples from each location.*
N/A	N/A	33 Appendix B rationale for NTU values at all outfall sampling points where applicable.*
N/A	N/A	34 Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged also provide a summary chart of the justification and analysis for the representative sampling as applicable.*
N/A	N/A	35 A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs; (2) intermediate grading and drainage BMPs; and (3) final BMPs. For construction sites where there will be mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the plan may combine all of the BMPs into a single phase.*
ES10-ES30	Y	36 Graphic scale and North arrow.
ES10-ES30	Y	37 Grading and proposed contour lines with contour lines drawn at an interval in accordance with the following: Existing Contours USGS 1":2000 Topographical Sheets Proposed Contours 1":400 Centerline Profile
ES10-ES30	Y	38 Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by GFD) or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswc.org.
N/A	N/A	39 Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition.*
ES10-ES30	Y	40 Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to State waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.
N/A	N/A	41 Delineation of on-site wetlands and all State waters located on and within 200 feet of the project site.
ES00	Y	42 Delineation and acreage of contributing drainage basins on the project site.
ES00	Y	43 Delineate on-site drainage and off-site watersheds using USGS 1":2000 Topographical sheets.
ES00	Y	44 An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.
ES00	Y	45 Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/delineate all storm water discharge points.
ES10-ES30	Y	46 Soil series for the project site and their distribution.
ES10-ES30	Y	47 The limits of disturbance for each phase of construction.
N/A	N/A	48 Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual must be included for structural BMPs and all calculations used by the design professional to obtain the required sediment storage when using equivalent controls. When discharging from sediment basins and riprap basins, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the plan.
ES10-ES30	Y	49 Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.
ES00-ES01	Y	50 Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
ES01	Y	51 Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilize, time and mowing rates. Vegetative plan shall be site specific for appropriate species and time of year that seeding will take place and for the appropriate geographic region of Georgia.

\*If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream the \* checklist items would be N/A. Effective January 1, 2011

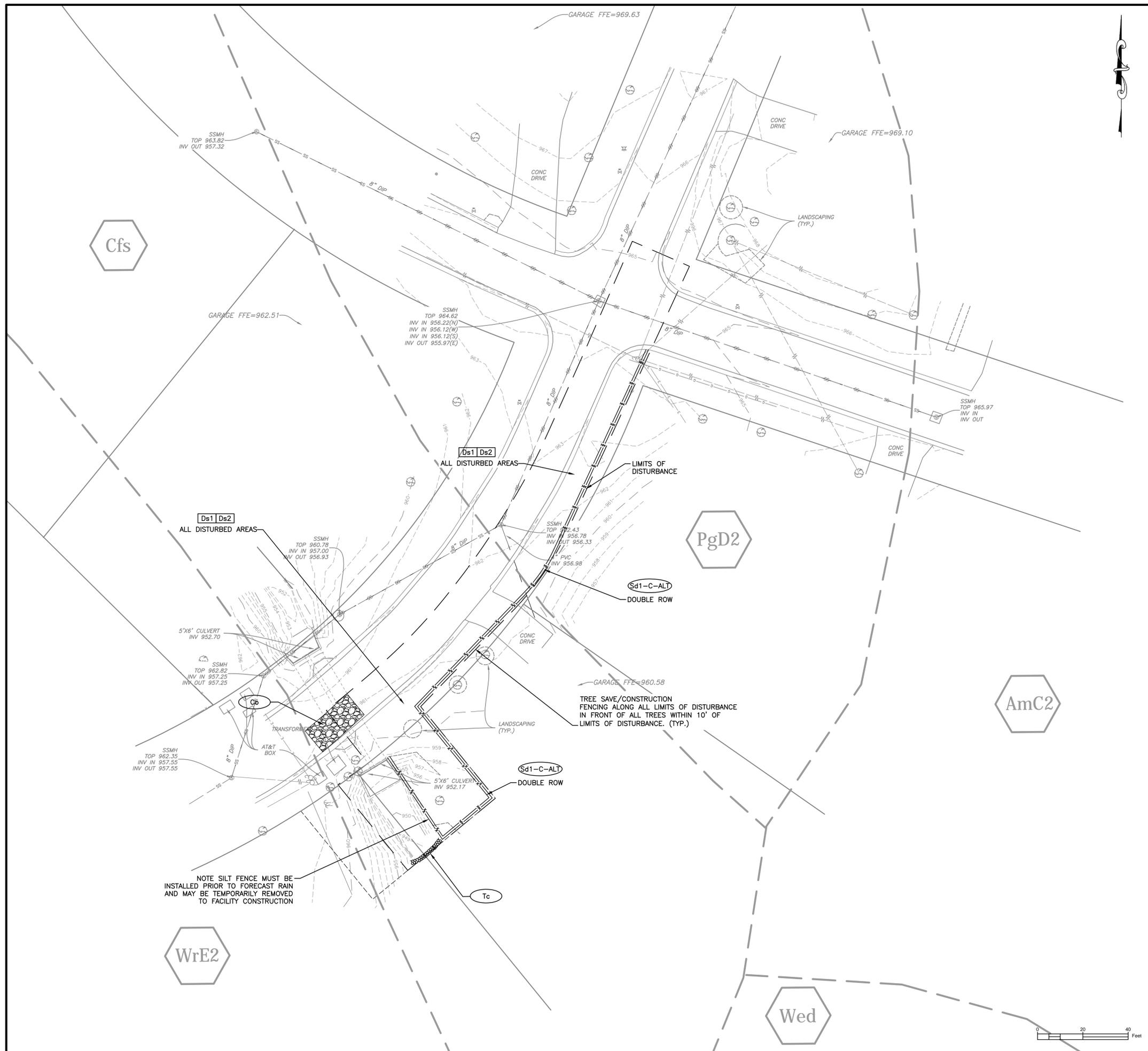


Rev.	Date	Description
1	3/4/16	ISSUED FOR BID - NOT FOR CONSTRUCTION
2	4/7/16	NR
3	4/7/16	NR
4	4/7/16	NR
5	4/7/16	NR
6	4/7/16	NR
7	4/7/16	NR
8	4/7/16	NR

CONSTRUCTION PLANS FOR SHEFFIELD ROAD DRAINAGE IMPROVEMENTS  
LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

POLLUTION CONTROL NOTES

DRAWING NO. C-501



NOTE SILT FENCE MUST BE INSTALLED PRIOR TO FORECAST RAIN AND MAY BE TEMPORARILY REMOVED TO FACILITY CONSTRUCTION

TREE SAVE/CONSTRUCTION FENCING ALONG ALL LIMITS OF DISTURBANCE IN FRONT OF ALL TREES WITHIN 10' OF LIMITS OF DISTURBANCE. (TYP.)

EROSION CONTROL MEASURES INITIAL PHASE

- Co CONSTRUCTION EXIT
- Ds1 DISTURBED AREA STABILIZATION (MULCHING)
- Ds2 DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)
- Sd1-C-ALT SILT FENCE - TYPE C ALT
- Tc TURBIDITY CURTAIN

SOILS DELINEATION

- AmC2 APPLING SANDY LOAM 6-10% SLOPES
- Cfs CHEWACLA SILT LOAM 0-2% SLOPES
- PgD2 PACOLET SANDY CLAY LOAM 15% SLOPES
- WrE2 WEDOWEE SANDY LOAM 10-25% SLOPES

Engineer Certification

"I certify under penalty of law that this plan was prepared after a site visit to the location described herein by myself or my authorized agent, under my direct supervision.

"I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia." (published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the storm water outfalls and that the designed system of best management practices and sampling methods is expected to meet the requirements contained in the General NPDES Permit No. GAR 100002."

Design professional of record shall inspect the site within 7 days of the construction start. The primary permittee shall notify the design professional of the construction start date prior to that start date.

*D. Wade Burcham*  
 D. WADE BURCHAM P.E. #: 033445 GSW CC#: 0000075363 DATE: 4/7/16

**INTEGRATED Science & Engineering**  
 1039 Sullivan Road, Suite 200, Newton, Georgia 30065  
 404.776.2216 • (770) 552.2107  
 d.wade@integrated-science.com

**PROFESSIONAL ENGINEER**  
 No. PE033445  
 4/7/16  
 D. WADE BURCHAM

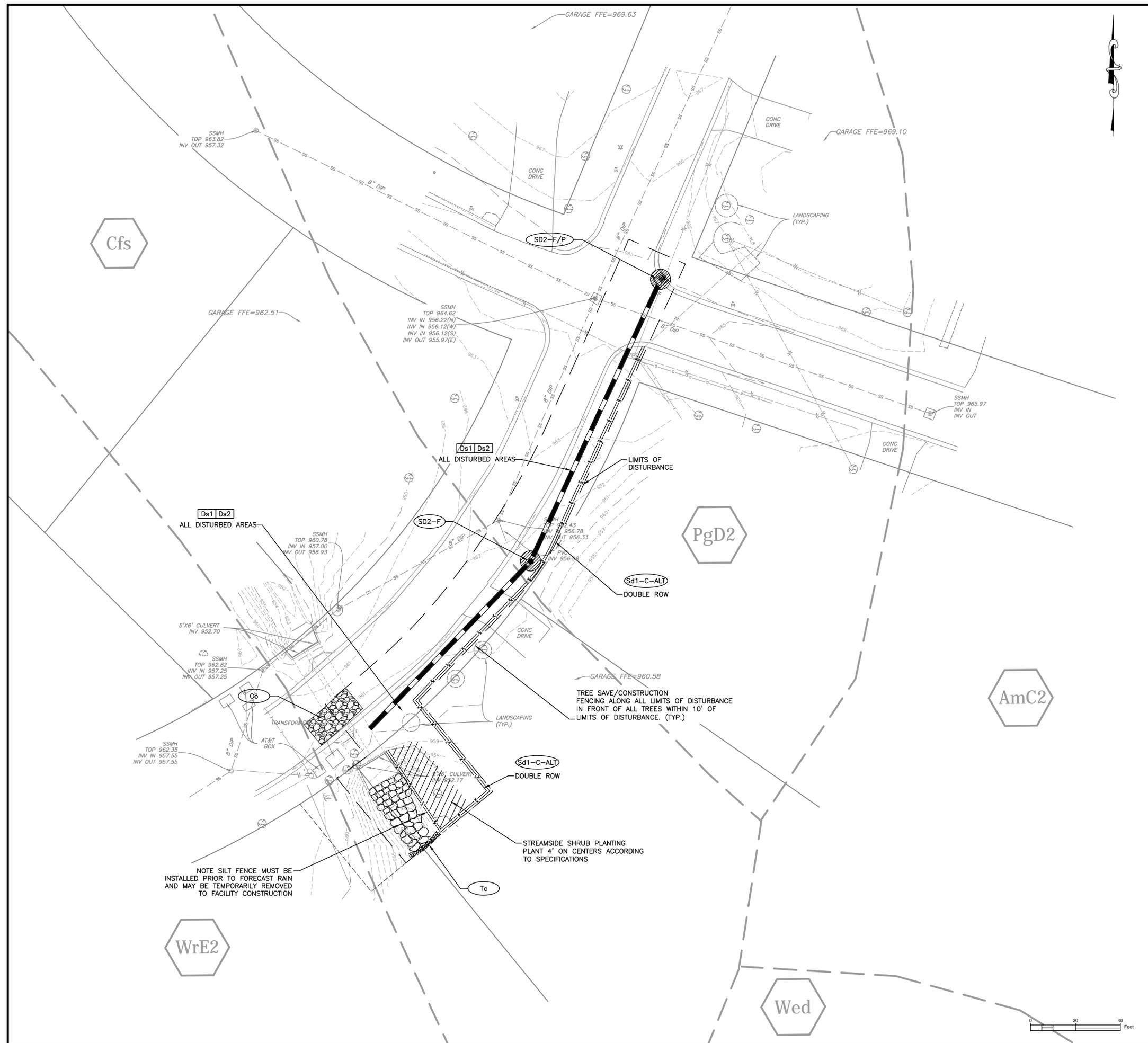
Rev.	Description	Date
1	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
2	REVIEW SET - NOT FOR CONSTRUCTION	3/4/16
3		
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CONSTRUCTION PLANS FOR SHEFFIELD ROAD DRAINAGE IMPROVEMENTS  
 LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

INITIAL EROSION CONTROL PLAN

DRAWING NO. C-510





**EROSION CONTROL MEASURES INTERMEDIATE PHASE**

- Co CONSTRUCTION EXIT
- Ds1 DISTURBED AREA STABILIZATION (MULCHING)
- Ds2 DISTURBED AREA STABILIZATION (TEMPORARY SEEDING)
- Sd1-C-ALT SILT FENCE-TYPE C ALT
- Tc TURBIDITY CURTIAN
- SD2-F INLET SEDIMENT TRAP
- SD2-P INLET SEDIMENT TRAP (PIGS IN A BLANKET)

**SOILS DELINEATION**

- AmC2 APPLING SANDY LOAM  
6-10% SLOPES
- Cfs CHEWACLA SILT LOAM  
0-2% SLOPES
- PgD2 PACOLET SANDY CLAY LOAM  
15% SLOPES
- WrE2 WEDOWEE SANDY LOAM  
10-25% SLOPES

**Engineer Certification**

"I certify under penalty of law that this plan was prepared after a site visit to the location described herein by myself or my authorized agent, under my direct supervision.

" I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia," published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the storm water outfalls and that the designed system of best management practices and sampling methods is expected to meet the requirements contained in the General NPDES Permit No. GAR 100002."

Design professional of record shall inspect the site within 7 days of the construction start date prior to that start date.

*D. Wade Burcham* DATE: 4/7/16

D. WADE BURCHAM P.E. #: 033445 GSW CC#: 0000075363

**CONSTRUCTION PLANS FOR SHEFFIELD ROAD DRAINAGE IMPROVEMENTS**

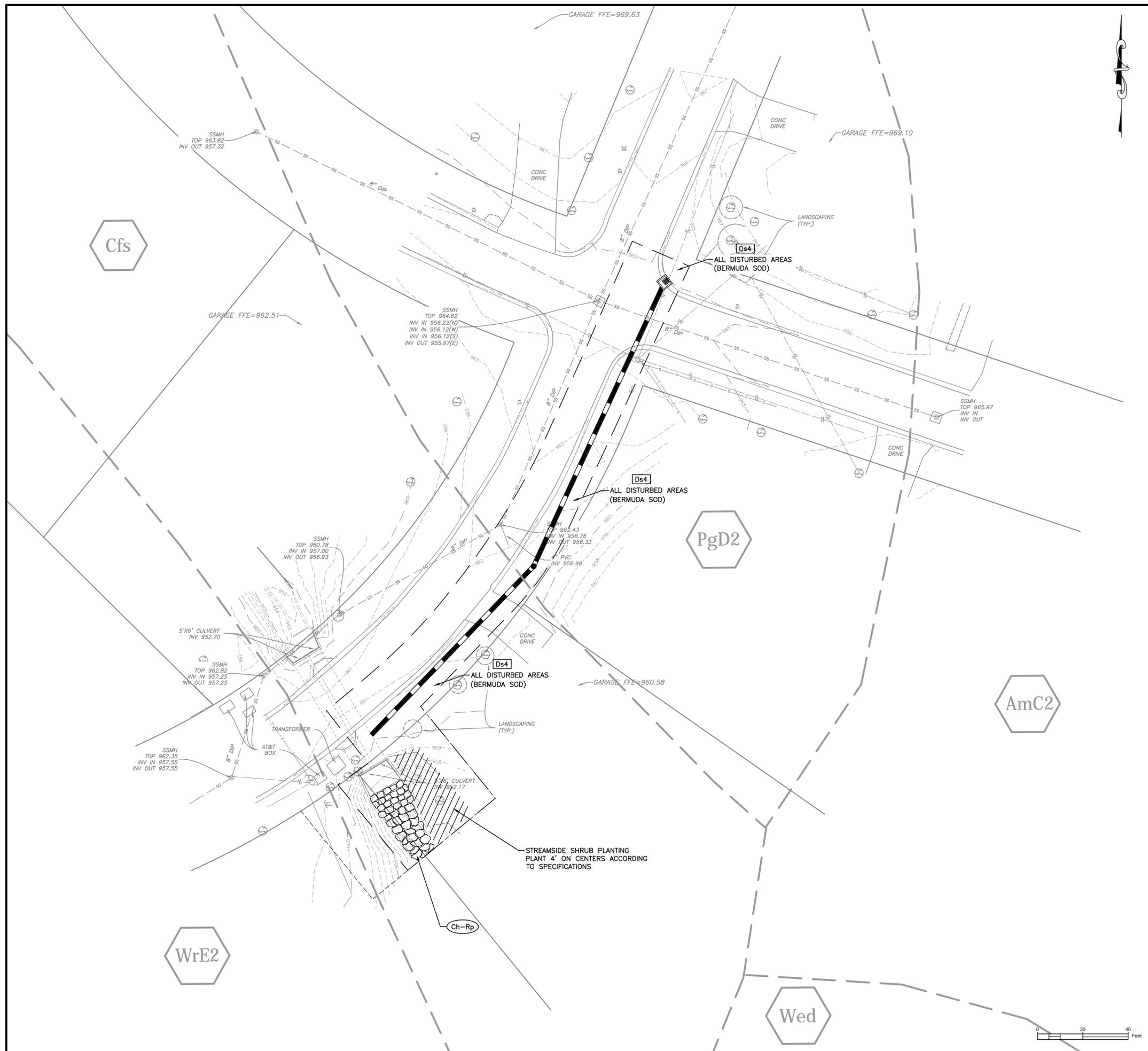
LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

Rev.	Description	Date
1	ISSUED FOR BID - NOT FOR CONSTRUCTION	4/7/16
2	REVIEW SET - NOT FOR CONSTRUCTION	3/4/16

Scale: 1" = 20'

**INTERMEDIATE EROSION CONTROL PLAN**

DRAWING NO. C-520



EROSION CONTROL MEASURES FINAL PHASE

- Ch-Rp CHANNEL STABILIZATION (RIP-RAP BOULDERS)
- Ds4 DISTURBED AREA STABILIZATION (PERMANENT VEGETATION) (BERMUDA SOD)

SOILS DELINEATION

- AmC2 APPLING SANDY LOAM 6-10% SLOPES
- Cfs CHEWACLA SILT LOAM 0-2% SLOPES
- PgD2 PACOLET SANDY CLAY LOAM 15% SLOPES
- WrE2 WEDOWEE SANDY LOAM 10-25% SLOPES

**Engineer Certification**

"I certify under penalty of law that this plan was prepared after a site visit to the location described herein by myself or my authorized agent, under my direct supervision.

" I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia," published by the State Soil and Water Conservation Commission as of January 1 of the year in which the land-disturbing activity was permitted, provides for the sampling of the receiving water(s) or the sampling of the storm water outfalls and that the designed system of best management practices and sampling methods is expected to meet the requirements contained in the General NPDES Permit No. GAR 100002."

Design professional of record shall inspect the site within 7 days of the construction start. The primary permittee shall notify the design professional of the construction start date prior to that start date.

*D. Wade Burcham* DATE: 4/7/16

D. WADE BURCHAM P.E. #: 033445 GSW CC#: 0000075363

**INTEGRATED Science & Engineering**

1039 Sullivan Road, Suite 200, Newnan, Georgia 30285  
 Phone: 770.221.2106 • Fax: 770.221.2107  
 www.integratedse.com

REGISTERED PROFESSIONAL ENGINEER  
 No. PE033445  
 4/7/16  
 D. WADE BURCHAM

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CONSTRUCTION PLANS FOR SHEFFIELD ROAD DRAINAGE IMPROVEMENTS

LOCATED ALONG SHEFFIELD ROAD AT LANCELOT DRIVE, CITY OF NORCROSS, GEORGIA

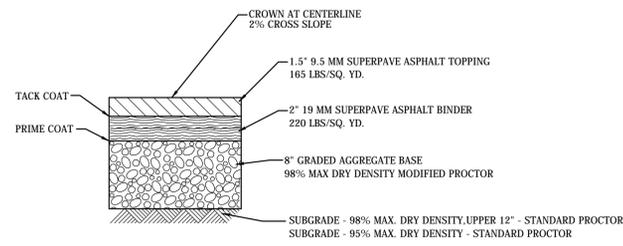
FINAL EROSION CONTROL PLAN

DRAWING NO. C-530

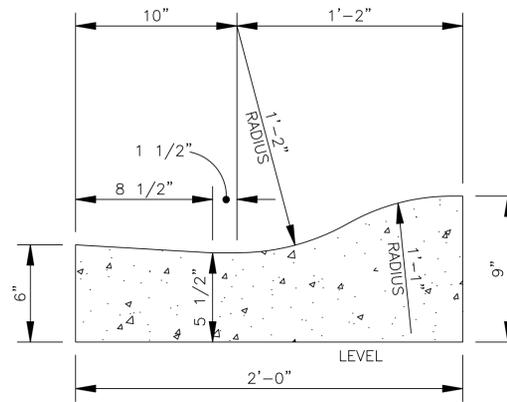




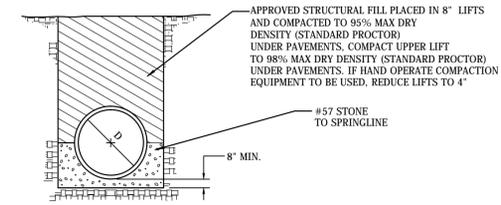




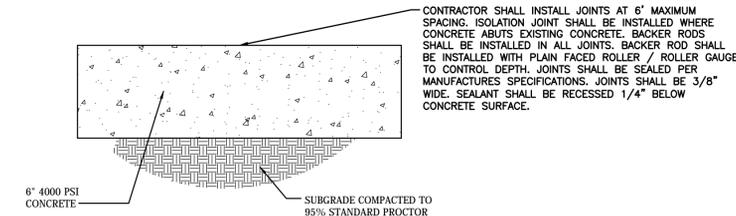
ASPHALT PAVEMENT SECTION  
SCALE: N.T.S.



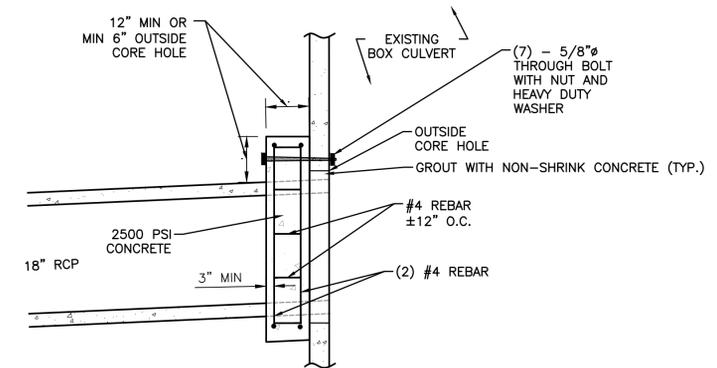
ROLL BACK CURB  
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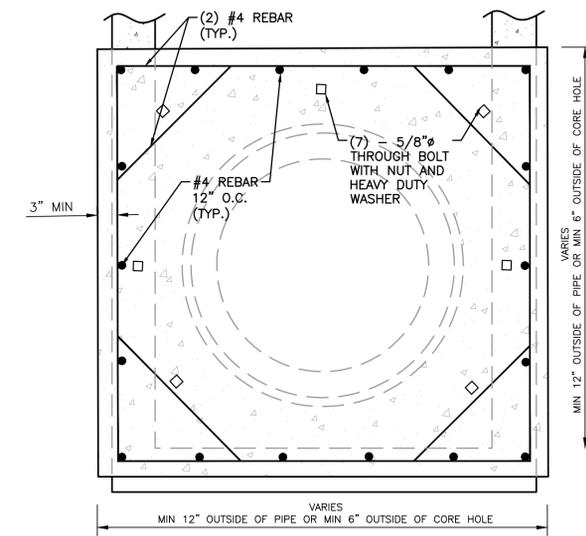
STORM SEWER PIPE BEDDING  
SCALE: N.T.S.



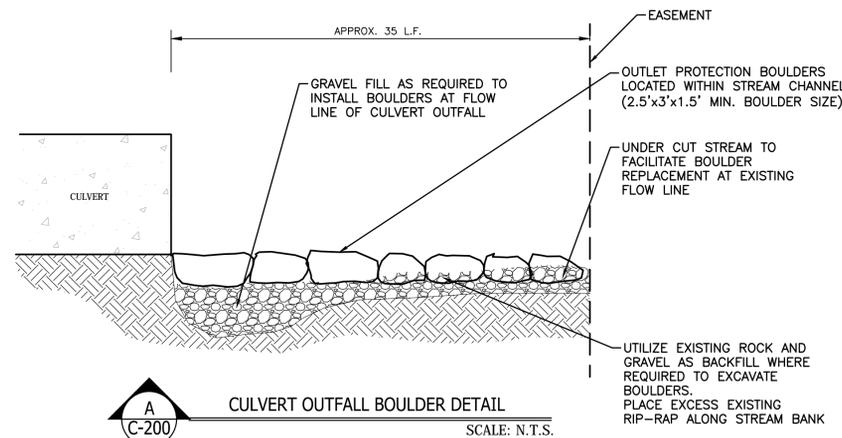
CONCRETE DRIVEWAY PAVING DETAIL  
SCALE: N.T.S.



CONCRETE COLLAR DETAIL  
SCALE: N.T.S.



CONCRETE COLLAR DETAIL  
SCALE: N.T.S.



CULVERT OUTFALL BOULDER DETAIL  
SCALE: N.T.S.

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STATE: GA. PROJECT NUMBER: SHEET NO. TOTAL SHEETS: 10/13

**STORM MANHOLE**

**GENERAL NOTES:**

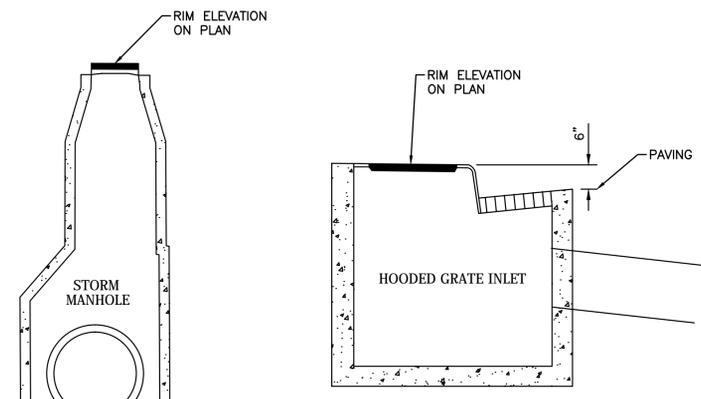
1. MATERIALS: ALL CONCRETE, STEEL BARS AND STEEL WIRE REINFORCEMENT SHALL COMPLY WITH SECTION 806.02 OF GEORGIA STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS WHERE APPLICABLE, SECTION 806.02.
2. REINFORCEMENT: (A) PLACEMENT AND DESIGN OF STEEL REINFORCEMENT IN RISER UNITS, CONE SECTIONS, GRABBER RINGS AND DOWN SLABS SHALL BE IN COMPLIANCE WITH S.D.S. 11. C-808 UNLESS OTHERWISE SPECIFIED. (B) BASE UNITS, REDUCER SLABS AND FLAT TOP SLABS SHALL HAVE STEEL REINFORCEMENT AS SHOWN IN DETAILS AND LEFT.
3. OPENINGS FOR PIPES LARGER THAN 6 INCHES IN DIAMETER ARE TO BE PRECAST. A MINIMUM OF 6" ALONG THE INTERFERERENCE IS TO REMAIN BETWEEN THE EXTREMITIES OF HOLE FOR ALIGNMENT PIPE IN ANY SINGLE UNIT. A MINIMUM OF TWO REINFORCING BARS SHALL REMAIN IN WALL BETWEEN ANY TWO OPENINGS.
4. THE CONTRACTOR SHALL FURNISH THE FABRICATION WITH THE ANGLE OF ALIGNMENT AND SIZE OF ALL PIPES TO ENTER MANHOLE AND THE HEIGHT OF STRUCTURE.
5. BASE UNITS SHALL HAVE SUFFICIENT HEIGHT TO ALLOW FOR MINIMUM OF 6" OF WALL BETWEEN TOP OF HIGHEST OPENING FOR PIPES AND BOTTOM OF JOINT.
6. INVERT CORNELLS: (A) FOR SANITARY DOWN MANHOLES SEE GEORGIA STANDARD SPECIFICATIONS FOR CHANNEL REINFORCEMENTS. (B) FOR STORM SEWER MANHOLES, CHANNELS BUILT TO SUIT PIPE SIZES AND LOCATION. HEIGHT OF CHANNEL EQUAL TO 1/2 DIAMETER OF OUTLET PIPE. CHANNEL BUILT FROM GROUT OR CLASS "A" CONCRETE.
7. PIPES ARE TO BE EXTENDED INTO STRUCTURE WALL A MINIMUM OF 4" BUT SHOULD NOT EXTEND BEYOND INTERIOR WALL OF STRUCTURE.
8. ALL JOINTS, EXCEPT FOR GRABBER RINGS AND TOP OF TOP CONE, SHALL HAVE TONGUE AND GROOVE SECTION.

**DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA**

**STANDARD PRECAST REINFORCED CONCRETE MANHOLE**

NO SCALE. AUGUST, 1973

DESIGNED: [Signature] SUBMITTED: [Signature] NUMBER: 1011A  
 DRAWN: [Signature] STATE ROAD DESIGN ENGINEER  
 CHECKED: [Signature] PROJECT SUPERVISOR



STATE: GA. PROJECT NUMBER: SHEET NO. TOTAL SHEETS: 10/13

**HOODED GATE INLET**

INSIDE OF PIPE	DIMENSIONS		QUANTITIES ONE CATCH BASIN				SKEW CONNECTIONS DIMENSIONS	
	90° W1	NORMAL W1	C.U. YDS	CL A CONC	LBS REINF STEEL	C.I. GRATE	W1	
15"	2'-8"	4'-0"	1.696	0.315	132	I	45°	
18"	2'-8"	4'-3"	1.706	0.315	135	I		
24"	2'-8"	4'-9"	1.779	0.315	153	I	3'-1" 3'-10"	
30"	3'-4"	5'-3"	2.351	0.339	174	I	3'-10" 4'-9"	
36"	4'-0"	5'-9"	2.568	0.366	179	20	4'-8" 5'-8"	

**DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA**

**STANDARD CATCH BASINS WITH CASTINGS REINFORCED CONCRETE BASIN WITH HOOD - TYPE A**

NO SCALE. REV. & REDR. AUG. 1999

DESIGNED: [Signature] SUBMITTED: [Signature] NUMBER: 1013  
 DRAWN: [Signature] STATE ROAD DESIGN ENGINEER  
 CHECKED: [Signature] PROJECT SUPERVISOR

**TECHNICAL SPECIFICATIONS**  
for  
**Sheffield Drainage  
Improvements Project**

April 8, 2016



CITY OF NORCROSS  
GWINNETT COUNTY, GEORGIA

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## **PART 1 GENERAL**

### **1.01 RELATED DOCUMENTS**

Construction Plans and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

### **1.02 DESCRIPTION OF WORK**

- A. Extent of demolition work is indicated on the Construction Plans.
- B. Demolition includes all operations necessary for demolition of the existing structures, foundations and utilities as shown.
- C. Remove debris, rubbish and other materials resulting from demolition operations from the site. Transport and legally dispose of materials off site.

### **1.03 SUBMITTALS**

- A. Schedule: Submit schedule indicating proposed methods and sequence of operations for demolition work to Owner's Representative for review prior to commencement of work. Include coordination for shut-off, capping, and continuation of utility services as required, together with details for dust and noise control protection. The procedures shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property which is to remain undisturbed, coordination with other work in progress, and timely disconnection of utility services. The submittal shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operation.
- B. If the Norcross or the Public shall continue to utilize the work site during construction either fully or partially, provide a detailed sequence of demolition and removal work to ensure uninterrupted on-site operations. For example, if a road is to be kept open for access to homes and businesses during construction, the Contractor shall provide a plan for ensuring continuous access during various phases of the project.
- C. Coordinate with the Project Manager continuing occupation of portions of existing building/site, with City's partial occupancy of completed new addition/site.

## 1.04 JOB CONDITIONS

- A. Occupancy: Norcross, Private Property Owners, Tenants, Utilities, or Others will be continuously occupying areas of the building/site immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption normal operations. Provide minimum of 72 hours advance notice to the Project Manager and affected Individuals of demolition activities which will significantly or adversely impact normal operations.
- B. Condition of Structures: Neither Norcross or the Owners of Private Property assume responsibility for actual condition of items or structures to be demolished.
- C. Conditions existing at time of commencement of contract will be maintained by Norcross insofar as practicable. However, variations within structure may occur due to removal and salvage operations prior to start of selective demolition work by either the City or the Owners of Private Property on or immediately adjacent to the work area.
- D. Partial Demolition and Removal: Items indicated to be removed but of salvable value to Contractor may be removed from project as work progresses. Transport salvaged items from site as they are removed.
- E. Storage or sale of removed items on site will not be permitted.
- F. Protection: Provide temporary barricades and other forms of protection as required to protect City's personnel and general public from injury due to selective demolition work.
- G. Provide protective measures as required to provide free and safe passage of City's personnel and general public to and from occupied portions of project.
- H. Erect temporary covered passageways as required by authorities having jurisdiction.
- I. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent areas, facilities, or work to remain.
- J. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
- K. Remove protections at completion of work.
- L. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Norcross, Private Property Owners, Tenants, Utilities, or Others unless otherwise provided for in the contract.
- M. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- N. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from authorities (i.e. City of Norcross,

Georgia Department of Transportation, or Private Property Owner) having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

- O. Explosives: Use of explosives will not be permitted unless otherwise noted.
- P. Utility Services: Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations. Contractor is solely responsible for costs associated with damage to utilities including but not limited to replacement, fines, administrative costs, legal fees, etc.
- Q. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
- R. Environmental Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
- S. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
- T. NESHAP Compliance: The Contractor is responsible for being aware of and complying with the National Emission Standard for Hazardous Air Pollutants (NESHAP) Section 112 of the Federal Clean Air Act regarding asbestos.

## **PART 2 PRODUCTS (NOT APPLICABLE)**

## **PART 3 EXECUTION**

### **3.01 INSPECTION**

Prior to commencement of demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Owner's Representative prior to starting work. Contractor shall provide a copy of all photographs to the Norcross Project Manager prior to commencement of demolition work.

### **3.02 PREPARATION**

- A. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.
- B. Cease operations and notify the City's Representative immediately if safety of

structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.

- C. Locate, identify, stub off and disconnect utility services that are not indicated to remain.
- D. Provide by-pass connections as necessary to maintain continuity of service to occupied areas of project. Provide minimum of 72 hours advance notice to Norcross, Private Property Owners, Tenants, Utilities, and / or Others affected by the project if shut-down of service is necessary during change-over.

### **3.03 DEMOLITION**

- A. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on the Plans in accordance with demolition schedule and governing regulations.
- B. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
- C. All existing structures shall be completely removed where denoted on the Plans. All foundations and slabs shall be broken up and removed from the site. Sidewalks, curbs, gutters, streets and street light bases shall be completely removed. It is not anticipated that piling will be encountered; however, where piling is encountered they shall be removed to a point three feet below existing ground or proposed subgrade whichever is lower.
- D. Burning of debris on or adjacent to the project area is not allowed.
- E. Demolish foundation walls to a depth of not less than 12" below existing ground surface. Demolish and remove below-grade wood or metal construction. Break up below-grade concrete slabs.
- F. Completely fill below-grade areas and voids resulting from demolition work. Provide fill consisting of approved earth, gravel or sand, free of trash and debris, stones over 6" diameter, roots or other organic matter.
- G. If anticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to City's Representative in written, accurate detail. Pending receipt of directive from City's Representative rearrange selective demolition schedule as necessary to continue overall job progress without delay.

### **3.04 SALVAGE MATERIALS**

- A. Salvage Items: Where indicated on the Plans as "Salvage-Deliver to City or Property Owner", carefully remove indicated items, clean, store and turn over to City or Property Owner and obtain receipt.

- B. Historic artifacts, including cornerstones and their contents, commemorative plaques and tables, antiques, and other articles of historic significance remain the property of the City or Property Owner. Notify City's Representative if such items are encountered and obtain acceptance regarding method of removal and salvage for City or Property Owner.

### **3.05 DISPOSAL OF DEMOLISHED MATERIALS**

- A. Remove debris, rubbish and other materials resulting from demolition operations from the site. Transport and legally dispose of materials off site.
- B. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.

### **3.06 DEMOLITION AND REPAIR**

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.
- B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

**END OF SECTION**

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CAST IN PLACE CONCRETE GENERAL APPLICATIONS

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Concrete formwork.
- B. Concrete building frame members.
- C. Concrete for composite floor construction.
- D. Elevated concrete slabs.
- E. Floors and slabs on grade.
- F. Concrete shear walls, elevator shaft walls, and foundation walls.
- G. Concrete foundations and anchor bolts for pre-engineered building.
- H. Concrete foundations for water storage tank(s).
- I. Concrete reinforcement.
- J. Joint devices associated with concrete work.
- K. Miscellaneous concrete elements, including equipment pads, light pole bases, flagpole bases, thrust blocks, and manholes.
- L. Concrete curing.

**1.02 REFERENCES**

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 1997).
- B. ACI 211.2 - Standard Practice for Selecting Proportions for Structural Lightweight Concrete; American Concrete Institute International; 1998.
- C. ACI 301 - Specifications for Structural Concrete for Buildings; American Concrete Institute International; 1996.
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 1996.
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 1989 (Reapproved 1997).
- F. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 1991.
- G. ACI 306R - Cold Weather Concreting; American Concrete Institute International;

1988.

- H. ACI 308 - Standard Practice for Curing Concrete; American Concrete Institute International; 1992 (Reapproved 1997).
- I. ACI 318 - Building Code Requirements for Reinforced Concrete and Commentary; American Concrete Institute International; 1999.
- J. AC1350R – Environmental Engineering Concrete Structures; American Concrete Institute International; 1989.
- K. ASTM A 185 - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement; 1997.
- L. ASTM A 497 - Standard Specification for Steel Welded Wire fabric, Deformed, for Concrete Reinforcement; 1997.
- M. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 1996a.
- N. ASTM A 767/A 767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement; 1997.
- O. ASTM A 775/A 775M - Standard Specification for Epoxy-Coated Reinforcing Steel Bars; 1997.
- P. ASTM A 884/A 884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Fabric for Reinforcement; 1996a.
- Q. ASTM C 33 - Standard Specification for Concrete Aggregates; 1999a.
- R. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 1999.
- S. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; 2000.
- T. ASTM C 150 - Standard Specification for Portland Cement; 1999a.
- U. ASTM C 171 - Standard Specification for Sheet Materials for Curing Concrete; 1997a.
- V. ASTM C 173 - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 1994a.
- W. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete; 1998.
- X. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 1998a.
- Y. ASTM C 330 - Standard Specification for Lightweight Aggregates for Structural Concrete; 1999.
- Z. ASTM C 494/C 494M - Standard Specification for Chemical Admixtures for Concrete; 1999a.
- AA. ASTM C 618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete; 1999.

- AB. ASTM C 685 - Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing; 1998a.
- AC. ASTM C 881 - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 1999.
- AD. ASTM C 1059 - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 1999.
- AE. ASTM C 1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink); 1999.
- AF. ASTM D 994 - Standard Specification for Preformed Expansion Joint Filler for Concrete (Bituminous Type); 1998.
- AG. ASTM D 1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types); 1999.
- AH. ASTM D 3963/D 3963M - Standard Specification for Fabrication and Job-Site Handling of Epoxy Coated Reinforcing Steel Bars; 1999.
- AI. ASTM E 1155 - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers; 1996.

### **1.03 SUBMITTALS**

- A. See Section 01 33 00 Submittals, for submittal procedures.
- B. Product Data: Submit manufacturers' data on manufactured products.
- C. Samples: Submit two, 12 inch long samples of waterstops and construction joint devices.
- D. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent construction for concrete accessories.
- E. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

### **1.04 QUALITY ASSURANCE**

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
  - 1. Maintain one copy of each document on site.
- B. Acquire cement from same source and aggregate from same source for entire project.
- C. Follow recommendations of ACI 305R when concreting during hot weather.
- D. Follow recommendations of ACI 306R when concreting during cold weather.

## **PART 2 PRODUCTS**

### **2.01` FORMWORK**

- A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
  - 1. Form Facing for Exposed Finish Concrete: Contractors choice of materials that will provide smooth, stain-free final appearance.
  - 2. Form Facing for Exposed Finish Concrete: Steel.
  - 3. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
  - 4. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface. Form ties shall contain a water stop washer.

### **2.02 REINFORCEMENT**

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420).
  - 1. Deformed billet-steel bars.
  - 2. Unfinished.
  - 3. Galvanized in accordance with ASTM A 767/A 767M, Class I.
  - 4. Epoxy coated in accordance with ASTM A 775/A 775M.
- B. Welded Steel Wire Fabric: ASTM A 185, plain type.
  - 1. Coiled Rolls.
  - 2. Mesh Size and Wire Gage: As indicated on drawings.
- C. Reinforcement Accessories:
  - 1. Tie Wire: Annealed, minimum 16 gage (1.5 mm).
  - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
  - 3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches (38 mm) of weathering surfaces.

### **2.03 CONCRETE MATERIALS**

- A. Cement: ASTM C 150, Type I, II or III - Normal Portland type.
- B. Fine and Coarse Aggregates: ASTM C 33.
- C. Lightweight Aggregate: ASTM C 330.
- D. Fly Ash: ASTM C 618, Class C or F.

- E. Calcined Pozzolan: ASTM C 618, Class N.
- F. Silica Fume: ACI 211.1
- G. Water: Clean and not detrimental to concrete.
- H. Fiber Reinforcement: Synthetic fiber shown to have long-term resistance to deterioration when exposed to moisture and alkalis; 1/2 inch (12 mm) length.

## **2.04 ADMIXTURES**

- A. Air Entrainment Admixture: ASTM C 260
- B. Chemical Admixtures: ASTM C 494/C 494M, Type A - Water Reducing, Type C - Accelerating, and Type G - Water Reducing, High Range and Retarding.
  - 1. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.

## **2.05 CONCRETE ACCESSORIES**

- A. Reglets: Formed steel sheet, galvanized, with temporary filler to prevent concrete intrusion during placement.
- B. Bonding Agent: ASTM C 1059, Type II acrylic non-redispersable type.
- C. Epoxy Bonding System: ASTM C 881, type as required by project conditions.
- D. Vapor Barrier: 6 mil thick clear polyethylene film, type recommended for below grade application.
- E. Chemical Hardener: Fluosilicate solution designed for densification of cured concrete slabs.
- F. Non-Shrink Grout: ASTM C 1107; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
  - 1. Minimum Compressive Strength at 48 Hours: 2,400 psi (17 MPa).
  - 2. Minimum Compressive Strength at 28 Days: 7,000 psi (48 MPa).
- G. Curing Materials: Comply with requirements of AC1308.
- H. Moisture-Retaining Cover: ASTM C 171; regular curing paper, white curing paper, clear polyethylene, white polyethylene, or white burlap-polyethylene sheet.
- I. Liquid Curing Compound: ASTM C 309, Type 1, clear or translucent, non-staining.

## **2.06 JOINT DEVICES AND MATERIALS**

- A. Waterstops: PVC, bulb-type, 6 inches minimum width, 3/8" nominal thickness, continuous.
  - 1. Lapped joints are not permitted.

2. Product: Greenstreak 705.
  3. Alternative waterstop system: modified chloroprene rubber hydrophilic waterstop. Product greenstreak CJ-0725-3K.
- B. Joint Filler: Nonextruding, resilient asphalt impregnated fiberboard or felt, complying with ASTM D 1751, 1/4 inch thick and 4 inches deep; tongue and groove profile.
- C. Joint Filler: Compressible asphalt mastic with felt facers, complying with ASTM D 994, 1/4 inch thick and 4 inches deep.
- D. Construction Joint Devices: Integral galvanized steel, formed to tongue and groove profile, with removable top strip exposing sealant trough, knockout holes spaced at 6 inches, ribbed steel spikes with tongue to fit top screed edge.

## **2.07 CONCRETE MIX DESIGN**

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301.
1. For trial mixtures method, employ independent testing agency acceptable to for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended by manufacturer.
- D. Fiber Reinforcement: Add to mix at rate of 1.5 pounds per cubic yard (0.89 kg per cubic meter), or as recommended by manufacturer for specific project conditions.
- E. Normal Weight Concrete:
1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 4000 psi.
  2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.
  3. Calcined Pozzolan Content: Maximum 10 percent of cementitious materials by weight.
  4. Silica Fume Content: Maximum 5 percent of cementitious materials by weight.
  5. Cement Content: Minimum 517 lb per cubic yard.
  6. Water-Cement Ratio: Maximum 40 percent by weight.
  7. Total Air Content: 4 percent, per ASTM C 173.
  8. Maximum Slump: 4 inches.

9. Maximum Aggregate Size: 1 1/2 inch.

## 2.08 MIXING

- A. On Project Site: Mix in drum type batch mixer, complying with ASTM C 685. Mix each batch not less than 1-1/2 minutes and not more than 5 minutes.
- B. Transit Mixers: Comply with ASTM C 94/C 94M.

## 2.09 CONCRETE PROPERTIES FOR APPLICABLE COMPRESSIVE STRENGTHS

28 Day Compressive Strength (fc, psi)	Maximum Water-Cement Ratio By Weight (lb/lb)	Minimum Cement Content (lbs/cubic yard)	Location
5000	0.40*	611	Prestressed Members
4000	0.45	564	Structural Items
3000	0.50	470	Sidewalks, Concrete Fill

\*The optimum water-cement ratio for mix designs in excess of 4000 psi 28 day compressive strength shall be determined by various mix designs but not to exceed 0.40.

## 2.10 SLUMP LIMITS

- A. Concrete, when placed, shall have a slump within the following limits as measured in accordance with ASTM C143:
- |    |                            |       |
|----|----------------------------|-------|
| 1. | Walls, beams, columns      | 1"-3" |
| 2. | Footings, caissons         | 2"-4" |
| 3. | Pavement, slabs, sidewalks | 2"-4" |

## PART 3 EXECUTION

### 3.01 EXAMINATION

Verify lines, levels, and dimensions before proceeding with work of this section.

### 3.02 PREPARATION

- A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.
- B. Verify that forms are clean and free of rust before applying release agent.
- C. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

- D. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
- E. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.
- F. Install vapor barrier under interior slabs on grade. Lap joints minimum 6 inches (150 mm) and seal watertight by taping edges and ends. Cover with sand to depth shown on drawings.

### **3.03 INSTALLATION (OF REINFORCEMENTS)**

- A. Fabricate and handle epoxy-coated reinforcing in accordance with ASTM D 3963/D 3963M.
- B. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- C. Install wire fabric in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.
- D. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

### **3.04 FIELD QUALITY CONTROL**

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00 Quality Requirements.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of concrete operations.
- D. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- E. Compressive Strength Tests: ASTM C 39/C 39M. For each test, mold and cure three concrete test cylinders. Obtain test samples for every 100 cu yd (76 cu m) or less of each class of concrete placed.
- F. Take one additional set of test cylinders during cold weather concreting, cured on job site under same conditions as concrete it represents.
- G. Perform one slump test for each set of test cylinders taken.

### **3.05 PLACING CONCRETE**

- A. Place concrete in accordance with ACI 304R.

- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Notify not less than 24 hours prior to commencement of placement operations.
- D. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- E. Repair vapor barrier damaged during placement of concrete reinforcing. Repair with vapor barrier material; lap over damaged areas minimum 6 inches and seal watertight.
- F. Separate slabs on grade from vertical surfaces with joint filler.
- G. Place joint filler in floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- H. Extend joint filler from bottom of slab to within 1/2 inch (13 mm) of finished slab surface.
- I. Install joint devices in accordance with manufacturer's instructions.
- J. Install construction joint devices in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.
- K. Install joint device anchors for expansion joint assemblies as specified. Maintain correct position to allow joint cover to be flush with floor and wall finish.
- L. Apply sealants in joint devices in accordance with Manufacturer.
- M. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- N. Place concrete continuously between predetermined expansion, control, and construction joints.
- O. Do not interrupt successive placement; do not permit cold joints to occur.
- P. Place floor slabs in checkerboard or saw cut pattern indicated.
- Q. Saw cut joints within 24 hours after placing. Use 3/16 inch thick blade, cut into 1/4 depth of slab thickness.
- R. Screed floors level, maintaining surface flatness of maximum 1/4 inch in 10 ft.

### **3.06 CONCRETE FINISHING**

- A. Repair surface defects, including tie holes, immediately after removing formwork.
- B. Unexposed Form Finish: Rub down or chip off fins or other raised areas 1/4 inch or more in height.
- C. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:
  - 1. Smooth Rubbed Finish: Wet concrete and rub with carborundum brick or other abrasive, not more than 24 hours after form removal.

2. Grout Cleaned Finish: Wet areas to be cleaned and apply grout mixture by brush or spray; scrub immediately to remove excess grout. After drying, rub vigorously with clean burlap, and keep moist for 36 hours.
  3. Cork Floated Finish: Immediately after form removal, apply grout with trowel or firm rubber float; compress grout with low-speed grinder, and apply final texture with cork float.
- D. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
1. Wood float surfaces that will receive quarry tile, ceramic tile, and terrazzo with full bed setting system.
  2. Steel trowel surfaces that will receive carpeting, resilient flooring, seamless flooring, thin set quarry tile, and thin set ceramic tile.
  3. Steel trowel surfaces that will be left exposed.
    - a. Chemical Hardener: After slab has cured, apply water-diluted hardener in three coats per manufacturer's instructions, allowing 24 hours between coats.
- E. In areas with floor drains, maintain floor elevation at walls; pitch surfaces uniformly to drains at 1:100 nominal.

### **3.07 CURING AND PROTECTION**

- A. Comply with requirements of ACI 308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, rain and flowing water, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
  1. Normal concrete: Not less than 7 days.
  2. High early strength concrete: Not less than 4 days.
- C. Formed Surfaces: Cure by moist curing with forms in place for full curing period.
- D. After forms are removed, an approved membrane forming curing compound, to seal water in the concrete, shall be applied to all concrete except surfaces which are to receive future concrete or mortar necessary for hydration of cement and hardening of concrete.
  1. Normal concrete: Not less than 7 days.
  2. High early strength concrete: Not less than 4 days.
- E. Surfaces Not in Contact with Forms:
  1. Start initial curing as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
  2. Begin final curing after initial curing but before surface is dry.

- a. Moisture-retaining cover: Seal in place with waterproof tape or adhesive.
- b. Curing compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

### **3.08 WATER TIGHTNESS**

- A. All concrete structures for holding and transporting water and wastewater, and pits below ground level, shall be watertight; a drop in the water level of more than ¼ inch within 24 hours will not be permitted when waterholding and transporting structures, and pits below ground level, are filled.
- B. All exposed surfaces of water holding and transporting structures, and interiors of pits below ground water level, shall be free from visible damp spots and seepages before acceptance.
- C. The Contractor shall fill and test structures prior to backfilling, as directed by the Norcross Project Manager.

### **3.09 CONTROL JOINTS**

- A. Construction Joints: Shall be formed using galvanized metal keyway or job-built wood forms with keyway.
- B. Sawed Joints: Shall be sawed within 24-hours of placing the concrete.
- C. Expansion Joints: Shall be located where new concrete is to be placed up to existing concrete and as shown on the drawings or as directed by the Norcross Project Manager.
- D. General: Joints shall be located so that the maximum area between shall not exceed 600 square feet. Length to width ratios shall not exceed 2 to 1. Refer to the drawings for a specific joint pattern.

### **3.10 DEFECTIVE WORK**

Concrete not conforming with the plans and specifications, not formed as shown on the plans, has a defective surface, or lacks the required strength shall be removed from the job site at the contractor's expense or repaired as directed by the Norcross Project Manager.

**END OF SECTION**

## **PART 1 GENERAL**

### **1.01 SCOPE**

This Section describes materials and equipment to be utilized and requirements for their use in preparing the work site for construction. The Contractor shall furnish all materials, equipment and labor necessary to complete the work. The contractor is required to contact the **Utilities Protection Center, Inc.** in the **State of Georgia call 811** prior to any excavation or construction.

### **1.02 REFERENCES**

Georgia Manual for Erosion and Sedimentation Control, current edition

### **1.03 QUALITY ASSURANCE**

- A. Comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction.
- B. Layout work shall be done under supervision of a Civil Engineer or Registered Land Surveyor, registered in Georgia.
- C. Transit and measuring devices shall be calibrated to layout site and construction work.

### **1.04 SITE CONDITIONS**

The area to be cleared and grubbed is shown schematically on the Drawings or specified below.

## **PART 2 PRODUCTS**

### **2.01 EQUIPMENT**

The Contractor shall furnish equipment of the type normally used in clearing and grubbing operations including, but not limited to, tractors, dozers, chippers, trucks, loaders, and root rakes.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

- A. Protect and maintain all benchmarks, monuments and reference points. Replace if disturbed or destroyed. If found at variance with the Drawings, notify the Norcross Project Manager before proceeding with layout work.
- B. Install erosion and sedimentation control structures as shown on the Drawings.
- C. Protect all trees, vegetation, structures, utilities, and buildings not designated for removal for demolition.

### **3.02 TOPSOIL STRIPPING AND STOCKPILING**

- A. Topsoil (top 6" – 8" of material to be confirmed by based on observations of Norcross Project Manager) is to be removed from all cleared and grubbed areas and placed in designated stockpile areas as shown on the plans. If a stockpile area is not provided in the plans, then an area shall be proposed by the Contractor and approved by the Norcross Project Manager). The Contractor shall then grade the entire work site to conform, in general, to the finish elevations shown on the Plans.
- B. Shape topsoil stockpiles to drain without ponding water.
- C. Where trees are indicated to remain, stop topsoil stripping at drip line.

### **3.03 TREE PROTECTION**

- A. Construct tree protection barricades, minimum 3'-0" high around individual trees and groups of trees designated to remain. Construct barricades at drip line.
- B. Protect tree root systems from damage due to deleterious materials caused by run-off or spillage during mixing, use or discarding of construction materials or drainage from stored materials. Protect root systems from compaction, flooding, erosion or excessive wetting.

### **3.04 EXCAVATION AROUND TREES TO REMAIN**

- A. Where trenching for utilities is required within drip line, hand dig under or around roots. Cut no lateral roots or tap roots; cut smaller roots which interfere with new construction.
- B. Where excavation for new construction is required within drip line of trees, hand excavate to minimize damage to root systems. Use narrow tine spading forks and comb soil to expose roots. Relocate roots in backfill areas. If large, main lateral roots are encountered, expose beyond excavation limits, bend and relocate without breaking. If encountered immediately adjacent to location of new construction and relocation is not practical, cut roots approximately 3" back from new construction.

- C. Allow no exposed roots to dry out before permanent backfill is placed; provide temporary earth cover, or pack with peat moss and wrap with burlap. Water and maintain in moist condition and temporarily support and protect from damage until permanently relocated and covered with backfill.
- D. Prune branches in accord with standard horticultural practice to balance loss to root system caused by damage or cutting of root system. Engage qualified arborist approved by the Norcross Project Manager to prune branches.

### **3.05 REPAIR FOR DAMAGED TREES**

- A. Engage a qualified arborist approved by the Norcross Project Manager to perform tree repair work.
- B. Make repairs promptly after damage occurs to prevent progressive deterioration of damaged trees.
- C. Remove dead trees and damaged trees in construction area which are determined by the tree arborist to be incapable of restoration to normal growth pattern.

### **3.06 CLEARING AND GRUBBING**

- A. Clear and grub each area before excavating. All trees, herbaceous growth and stumps are to be chipped for mulch. Mulch will be stockpiled in the areas designated on the Plans or used for erosion control as required. All other debris is to be removed to an approved landfill.
- B. Materials to be removed from the project site include, but are not limited to trash, organic matter, construction waste materials (i.e. paving, concrete miscellaneous structures, houses), debris and abandoned utilities.
- C. Grubbing shall consist of completely removing roots, stumps, trash and other debris from all graded areas so that topsoil is free of roots and debris. Topsoil is to be left sufficiently clean so that further picking and raking will not be required.
- D. All foundations and planking embedded in the ground shall be removed and disposed. Butts of utility poles shall be removed.
- E. Landscaping features shall include, but not limited to, fences, cultivated trees and shrubbery, property corners, man made improvements and signs. The Contractor shall take extreme care in moving landscape features and promptly re-establishing these features. Alternatively, the Contractor may propose to replace the features. This alternative will only be allowed if the Norcross Project Manager and Private Property Owner approve such a substitution in writing prior to removal.
- F. Surface rocks and boulders shall be grubbed from the soil and removed from the site if not suitable as rip rap.
- G. The entire construction area shall be grubbed by heavy tractors with root rakes. Raking shall generally proceed along the contour rather than up and down slopes so

as to inhibit soil erosion.

- H. Where the tree limbs interfere with utility wires, or where the trees to be felled are in close proximity to utility wires, the tree shall be taken down in sections to eliminate the possibility of damage to the utility.
- I. Any work pertaining to utility poles shall comply with the requirements of the appropriate utility.
- J. All fences adjoining any excavation or embankment that, in the Contractor's opinion, may be damaged or buried, shall be carefully removed, stored and replaced. Any fencing that, in the Norcross Project Manager's opinion, is significantly damaged shall be replaced with new fence material.
- K. Stumps and roots shall be grubbed and removed to a depth not less than two feet below grade. All holes or cavities which extend below the subgrade elevation of the proposed work shall be filled with crushed rock or other suitable material, compacted to the same density as the surrounding material.
- L. The Contractor shall exercise special precautions for the protection and preservation of trees, cultivated shrubs, sod, fences, etc. situated within the limits of the construction area but not directly within excavation and/or fill limits. The Contractor shall be held liable for any damage the Contractor's operations have inflicted on such property.
- M. The Contractor shall be responsible for all damages to existing improvements resulting from Contractor's operations.

### **3.07 DISPOSAL OF DEBRIS**

- A. The debris resulting from the clearing and grubbing operation shall be removed from the site and disposed of in accordance with all requirements of federal, state, county and municipal regulations. No debris of any kind shall be deposited in any stream or body of water, or in any street or alley. No debris shall be deposited upon any private property unless provided via a written authorization from the property owner and provided to the Norcross Project Manager. In no case shall any material or debris be left on the Project, shoved onto abutting private properties or buried on the Project.
- B. No burning shall be allowed of debris generated by the project under any circumstances unless allowed in writing by the Norcross Project Manager. If approved in writing by the Norcross Project Manager and when authorized by the proper authorities, the Contractor may dispose of such debris by burning on the Project site provided all requirements set forth by the governing authorities are met. The authorization to burn shall not relieve the Contractor in any way from damages which result from the Contractor's operations. On easements through private property, the Contractor shall not burn on the site unless written consent is also secured from the property owner, in addition to authorization from the proper authorities.

- C. Tub Grinders shall not be allowed on any Norcross project for which these specifications govern unless allowed in writing by the Norcross Project Manager. Chippers which discharge directly to a truck with a roof and sides to prevent material from being discharged in an uncontrolled manner will be allowed. However, the contractor is cautioned to ensure that debris from the chipper shall not pose a danger to the public or private property. If a forestry head will be utilized on a tractor or other piece of equipment, then the Contractor shall notify the Norcross Project Manager at least 48 hours in advance of the work and present a plan for use of the equipment and secure approval.

**END OF SECTION**

## **PART 1 GENERAL**

### **1.01 SCOPE**

- A. Topsoil for planting shall consist of a rich, friable soil conforming to the requirements and provisions set out in these Specifications, or an approved by the Norcross Project Manager and obtained from locations indicated on the Drawings. Topsoil shall be placed at the locations indicated on the Drawings, set out in the Specifications or as directed by the Norcross Project Manager and in conformity with the provisions and requirements set out in the Specifications.
- B. Suitable topsoil which has been stripped off of excavation and embankment areas shall be stockpiled as directed by the Norcross Project Manager and later used before additional topsoil is hauled to the site. Unsuitable material shall not be included in these stockpiles and shall be wasted as directed by the Norcross Project Manager.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Topsoil planting shall be a rich, friable loam containing a large amount of humus and shall be original surface sandy loam, topsoil of good, rich, uniform quality, free from any material such as hard clods, stiff clay, hardpan, partially disintegrated stone, pebbles larger than 1/2-inch in diameter, lime, cement, bricks, ashes, cinders, slag, concrete, bitumen or its residue, boards, sticks, chips or other undesirable material harmful or unnecessary to plant growth. Topsoil shall be reasonable free from perennial weeds and shall not contain objectionable plant material, toxic amounts of either acid or alkaline elements or vegetable debris undesirable or harmful to plant life.
- B. Topsoil shall be natural topsoil without admixture of subsoil material, and shall be classified as a loam, silt loam, clay loam or a combination thereof. Topsoil shall contain not less than five percent nor more than 20 percent, by weight, of organic mater as determined by loss or ignition of oven-dried samples. The ignition test shall be performed on samples which have been thoroughly oven-dried to constant weight at a temperature of 221 degrees F.
- C. Topsoil shall be secured from areas from which topsoil has not been previously removed, either by erosion or mechanical methods. Topsoil shall not be removed to a depth in excess of the depth approved by the Norcross Project Manager.

- D. The area or areas from which topsoil is secured shall possess such uniformity of soil depth, color, texture, drainage and other characteristics as to offer assurance that, when removed in commercial quantities, the product will be homogeneous in nature and will conform to the requirements of these Specifications, or as required by the Norcross Project Manager.
- E. Topsoil may be secured, if approved by the Norcross Project Manager, from areas which are, or have been, in cultivation within the past five years, which are producing or have produced fair or good yields of staple farm or truck crops without unusual fertilization, or topsoil may be secured from areas supplied with good normal drainage which is arable or suitable for cultivation.

## **PART 3 EXECUTION**

### **3.01 EQUIPMENT**

All equipment necessary for the proper removal, transportation, protection and maintenance of topsoil must be available, when required, in first class working condition and shall have been approved by the Norcross Project Manager before construction will be permitted to begin.

### **3.02 REQUIREMENTS**

- A. Topsoil, except that stockpiled from excavation or embankment areas on the Project, shall not be stored for use but shall be excavated and placed directly into its final position.
- B. All areas from which topsoil is to be secured, shall be cleaned of all sticks, boards, stones, lime, cement, ashes, cinders, slag which will hinder or prevent growth.
- C. In securing topsoil from a designated pit, or elsewhere, should strata or seams of material occur which do not come under the requirements for topsoil, such material shall be removed from the topsoil or if required by the Norcross Project Manager, the pit shall be abandoned.
- D. Before placing or depositing topsoil upon any areas, all improvements within the area shall be completed, unless otherwise approved by the Norcross Project Manager.
- E. The areas or pits into which topsoil is to be placed or incorporated, shall be prepared before securing topsoil for use. The depth to which topsoil is excavated in any pit, shall be subject to the direction of and be approved by the Norcross Project Manager.
- F. All stockpiled soils shall have adequate erosion control features in place to prevent the loss of any material from said stockpile area into storm sewers, ditches, swales, streams, ponds, lakes or waterways of any kind.

- G. Topsoil shall be transported in vehicles which will not lose or scatter the topsoil during transportation.
- H. Topsoil shall be placed upon or incorporated into prepared areas or pits in accordance with the provisions and requirements set out in the sections of these Specifications covering the particular type or kind of planting or seeding for which topsoil is required.
- I. Rock sloped and other rock areas which are to be seeded shall be capped with 9-inches of suitable material before topsoil is used.

### **3.03 MAINTENANCE**

The Contractor shall maintain topsoil, at Contractor's own expense, in connection with any seeding or planting, or otherwise, until final completion of the Project. Maintenance shall consist of preserving, protecting, replacing and such other work as may be necessary to keep the Project in a satisfactory condition.

### **3.04 CLEANING**

- A. Final cleaning shall consist of completely cleaning the area of all equipment, rubbish, excess material and unused materials which will mar the appearance of the Project and disposing of the same satisfactorily.
- B. All pavements and structures shall be swept clean of all dirt or rubbish which may have become deposited upon them during construction.
- C. In addition, final cleaning up shall be performed in accordance with the requirements of these Specifications.

**END OF SECTION**

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**PART 1 GENERAL**

**1.01 SCOPE**

- A. This Section includes earthwork and related operations, including, but not limited to dewatering, excavating all classes of material encountered, pumping, draining and handling of water encountered in the excavations, handling, storage, transportation and disposal of all excavated and unsuitable material, construction of fills and embankments, backfilling around structures, compacting, all sheeting, shoring and bracing, preparation of subgrades, surfacing and grading, and any other similar, incidental, or appurtenant earthwork operations which may be necessary to properly complete the work.
- B. The Contractor shall provide all services, labor, materials, and equipment required for all earthwork and related operations, necessary or convenient to the Contractor, for furnishing complete work as shown on the Drawings or specified in these Contract Documents.

**1.02 RELATED SECTIONS**

- A. Geotechnical Report - Section 00 31 32 (If provided in bidding documents)
- B. Site Preparation - Section 31 10 00
- C. Trench Excavation and Backfill - Section 31 23 16

**1.03 GENERAL**

- A. The elevations shown on the Drawings as existing are taken from the best existing data and are intended to give reasonably accurate information about the existing elevations. They are not precise and the Contractor shall become satisfied as to the exact quantities of excavation and fill required.
- B. Earthwork operations shall be performed in a safe and proper manner with appropriate precautions being taken against all hazards.
- C. All excavated and filled areas for structures, trenches, fills, topsoil areas, embankments, and channels shall be maintained by the Contractor in good condition at all times until final acceptance by the Owner. All damage caused by erosion or other construction operations shall be repaired by the Contractor using material of the same type as the damaged material.
- D. The Contractor shall control grading in a manner to prevent surface water from running

into excavations. Obstruction of surface drainage shall be avoided and means shall be provided whereby storm water can be uninterrupted in existing gutters, other surface drains, or temporary drains. Free access must be provided to all fire hydrants and meters.

- E. Tests for compaction and density shall be conducted by the Norcross Project Manager or by an independent testing laboratory selected in accordance with Section 01 45 29 of these Specifications.
  - 1. The soils testing laboratory is responsible for the following:
    - a. Field compaction testing shall be based on using the maximum dry density determined by the Standard Proctor Compaction Test in accordance with ASTM D 698.
    - b. Determination of in-place backfill density shall be done in accordance with ASTM D 1556, "Density and unit weight of Soil In Place by the Sand-Cone Method", ASTM D 2937, "Density of Soil In Place by the Drive-Cylinder Method" or ASTM D 2922, "Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)".
    - c. Field density tests for each lift; one test for each 5,000 square feet of fill or minimum one test per lift.
    - d. Inspecting and testing stripped site, subgrades and proposed fill materials.
  - 2. Contractor's duties relative to testing include:
    - a. Notifying laboratory of conditions requiring testing.
    - b. Coordinating with laboratory for field testing.
    - c. Providing representative fill soil samples to the laboratory for test purposes. Provide 50 pound samples of each fill soil.
  - 3. Inspection
    - a. Earthwork operations, suitability of excavated materials for fill and backfill, and placing and compaction of fill and backfill is subject to inspection. Norcross Project Manager will observe earthwork operations.
    - b. Foundations and shallow spread footing foundations are required to be inspected by an Norcross Project Manager to verify suitable bearing and construction.
- F. All earthwork operations shall comply with the requirements of OSHA Construction Standards, Part 1926, Subpart P, Excavations, Trenching, and Shoring, and Subpart O, Motor Vehicles, Mechanized Equipment, and Marine Operations, and shall be conducted in a manner acceptable to the Norcross Project Manager.
- G. It is understood and agreed that the Contractor has made a thorough investigation of the surface and subsurface conditions of the site and any special construction problems

which might arise as a result of nearby watercourses and floodplains. The Contractor shall be responsible for providing all services, labor, equipment, and materials necessary or convenient to the Contractor for completing the work within the time specified in these Contract Documents.

H. Safety

Perform all trench excavation and backfilling activities in accordance with the Occupational Safety and Health Act of 1970 (PL 91-596), as amended. The Contractor shall pay particular attention to the Safety and Health Regulations Part 1926, Subpart P “Excavation, Trenching & Shoring” as described in OSHA publication 2226.

## PART 2 PRODUCTS

### 2.01 SOILS CLASSIFICATIONS

Bedding materials listed here include a number of processed materials plus the soil types defined according to the Unified Soil Classification System (USCS) in ASTM D 2487, Standard Method for Classification of Soils for Engineering Purposes. (See below for description of soil classification). These materials are grouped into five broad categories according to their suitability for this application:

- A. Class I - Angular, 1/4 to 1 1/2 inches (6 to 40 mm) graded stone, including such as coral, slag, cinders, crushed shells and crushed stone. Note - The size range and resulting high voids ratio of Class I material make it suitable for use to dewater trenches during pipe installation. This permeable characteristic dictates that its use be limited to locations where pipe support will not be lost by migration of other embedment materials into the Class I material. When such migration is possible, the material's minimum size range should be reduced to finer than 1/4 inch (6 mm) and the gradation properly designed to limit the size of the voids.
- B. Class II - Coarse sands and gravels with maximum particle size of 1 1/2 inch (40 mm), including variously graded sands and gravels containing small percentages of fines, generally granular and non-cohesive, either wet or dry. Soil Types GW, GP, SW and SP are included in this class. Note - Sands and gravels which are clean or borderline between clean and with fines should be included. Coarse-grained soils with less than 12% but more than 5% fines are neglected in ASTM D2487 and the USCS and should be included. The gradation of Class II material influences its density and pipe support strength when loosely placed. The gradation of Class II material influences its density and pipe support strength when loosely placed. The gradation of Class II material may be critical to the pipe support and stability of the foundation and embedment if the material is imported and is not native to the trench excavation. A gradation other than well graded, such as uniformly graded or gap graded, may permit loss of support by migration into void spaces of a finer grained natural material from the trench wall and foundation.

- C. Class III - Fine sand and clayey (clay filled) gravels, including fine sands, sand-clay mixtures and gravel-clay mixtures. Soil Types SM, GC, SM, and SC are included in this class.
- D. Class IV - Silt, silty clays and clays, including inorganic clays and silts of not to high plasticity and liquid limits. Soil Types MH, ML, CH, and CL are included in this class. Note- Caution should be used in the design and selection of the degree and method of compaction for Class IV soils because of the difficulty in properly controlling the moisture content under field conditions. Some Class IV soils with medium to high plasticity and with liquid limits greater than 50% (CH, MH, CH-MH) exhibit reduced strength when wet and should only be used for bedding, haunching and initial backfill in arid locations where the pipe embedment will not be saturated by ground water, rainfall and/or exfiltration from the pipeline system. Class IV soils with low to medium plasticity and with liquid limits lower than 50% (CL, ML, CL-ML) also require careful consideration in design and installation to control moisture content but need not be restricted in use to arid locations.
- E. Class V - This class includes the organic soils OL, OH, and PT as well as soils containing frozen earth, debris, rocks larger than 1 1/2 inch (40 mm) in diameter, and other foreign materials. These materials are not recommended for bedding, haunching or initial backfill.

**DESCRIPTION OF EMBEDMENT MATERIAL CLASSIFICATIONS**

SOIL CLASS	SOIL TYPE	DESCRIPTION MATERIAL CLASSIFICATION
Class I Soils *	---	Manufactured angular, granular material, 3/4 to 1 1/2 inches (6 to 40 mm) size, including materials having regional significance such as crushed stone, or rock, broken coral, crushed slag, cinders, or crushed shells.
Class II Soil **	GW	Well-graded gravels and gravel-sand mixtures, little or no fines. 50% or more retained on No. 4 sieve. More than 95% retained on No. 200 sieve. Clean..
	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines. 50% or more retained on No. 4 sieve. More than 95% retained on No. 200 sieve. Clean
	SW	Well-graded sands and gravelly sands, little or no fines. More than 50% passes No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
	SP	Poorly graded sands and gravelly sand, little or no fines. More than 50% passes No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.

Class III Soil ***	GM	Silty gravels, gravel-sand-silt mixtures. 50% or more retained on No. 200 sieve.
	GC	Clayey gravels, gravel-sand-clay mixtures. 50% or more retained on No. 4 sieve. More than 50% retained on No. 200 sieve.
	SM	Silty sands, sand-silt mixtures. More than 50% passes No. 4 sieve. More than 50% retained on No. 200 sieve.
	SC	Clayey sands, sand-clay mixtures. More than 50% passes No. 4 sieve. More than 50% retained on No. 200 sieve.
Class IV Soils	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts. Liquid limit greater than 50%. 50% or more passes No. 200 sieve.
	CH	Inorganic clays of high plasticity, fat clays. Liquid limit greater than 50%. 50% or more passes No. 200 sieve.
Class V Soils	OL	Organic silts and organic silty clays of low plasticity. Liquid limit 50% or less. 50% or less. 50% or more passes No. 200 sieve.
	OH	Organic clays of medium to high plasticity. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
	PT	Peat, muck and other highly organic soils.

\* Soils defined as Class I materials are not defined in ASTM D2487.

\*\* In accordance with ASTM D2487, less than 5% pass No. 200 sieve.

\*\*\* In accordance with ASTM D2487, more than 12% pass No. 200 sieve. Soils with 5% to 12% pass No. 200 sieve fall in borderline classification, e.g. GP-GC.

## **2.02 FILL MATERIAL**

- A. Sand Fill: Material shall consist of a clean sand with a fineness modulus of 1.6 to 3.1 and containing not more than 10 percent by weight finer than No. 200 U.S. Standard Sieve.
- B. Earth Fill: Material shall consist of inorganic material free of roots, cobbles and boulders and classified as SM, ML, SC, or CL by ASTM D2487-85 "Standard Methods for Classification of Soils for Engineering Purposes". Earth Fill shall also conform to the following:
  - 1. Liquid Limit = 50 maximum
  - 2. Plasticity Index = 20 maximum
  - 3. Dry Unit Weight = 90 pcf minimum maximum density
- C. Coarse Aggregate (Crushed Stone): Coarse aggregate shall conform to the Georgia Department of Transportation Standard Specifications for Construction of Road and Bridges, Table 800.01 H, Size No. 57.

## **2.03 UNSUITABLE SITE FILL MATERIAL**

Material which does not conform to the above classifications (soil classification SP, SW, GM, CH, MH, OH, OL, and PT) may be used as Site Fill material in areas identified on the drawings as "spoil areas", in areas with no structures and or roads and other non-critical areas.

## **2.04 SHEETING, BRACING AND TIMBERING**

- A. Sheeting, Bracing and Timbering: Unless the slopes are to be benched back per applicable regulations, the Contractor shall furnish, place and maintain all sheeting, bracing and timbering required to properly support trenches and other excavations in open cut and to prevent all movement of the soil, pavement, structures, or utilities outside of the trench or pit.
  - 1. General
    - a. Cofferdams and bracing design, including computations, shall be prepared before commencing construction operations. Drawings and design computations shall be signed and sealed by a professional engineer registered in the State of Georgia. The drawings and design computations shall be submitted to the Norcross Project Manager for informational purposes only.
    - b. Sheeting, bracing and timbering shall be so placed as to allow the work to be constructed to the lines and grades shown on the Drawings and as ordered by the Norcross Project Manager.
    - c. If at any time the method being used by the Contractor for supporting any material or structure in or adjacent to any excavation is not

reasonably safe, the Contractor shall provide additional bracing and support necessary to furnish the added degree of safety.

- d. All sheeting in contact with the concrete or masonry shall be cut off as directed by the Norcross Project Manager and left in place.
- 2. Timber: Timber may be substituted for steel sheet piling when approved by the Norcross Project Manager. Timber for shoring, sheeting or bracing shall be sound and free of large or loose knots, and in good condition. Size and spacing shall be in accordance with OSHA regulations.
- 3. Steel Sheet Piling: Steel sheet piling shall be the continuous interlock type. The weight, depth, and section modulus of the sheet piling shall be sufficient to restrain the loads of earth pressure and surcharge from existing foundations and/or live loads. Procedure for installation and bracing shall be so scheduled and coordinated with the removal of the earth that the ground under existing structures shall be protected against lateral movement at all times. The Contractor shall provide closure and sealing between sheet piling and existing facilities. Steel piling shall be removed, unless otherwise directed by the Norcross Project Manager.
- 4. Remove bracing and sheeting in units when backfill reaches the point necessary to protect the structures and adjacent property. Leave sheeting in place when, in the opinion of the Norcross Project Manager, it cannot be safely removed. Cut off sheeting left in place at least two feet below the surface.

**2.05 FILTER FABRIC**

- A. Filter fabric associated with bedding shall be a UV stabilized, spunbonded, continuous filament, needle punched, polypropylene, nonwoven geotextile.
- B. The fabric shall have an equivalent open size (EOS or AOS) of 120 - 70. The fabric shall also conform to the minimum property values listed in the following table:

Fabric Property	Unit	Test Procedure	Average Value	
			Typical	Minimum
Weight	oz/yd <sup>2</sup>	ASTM D 3776	8.3	
Thickness	mils	ASTM D 1777	105	
Grab Strength	lbs.	ASTM D 4632	240	210
Grab Elongation	%	ASTM D 4632	>50	50
Tear Strength	lbs.	ASTM D 4533	100	85
Mullen Burst	psi	ASTM D 3786	350	320
Puncture Resistance	lbs.	ASTM D 4833	115	100

Permittivity	sec <sup>-1</sup>	ASTM D 4491	1.7	
Water Permeability	cm/sec	ASTM D 4491	0.4	
Water Flow Rate	gpm/ft <sup>2</sup>	ASTM D 4491	120	
UV Resistance (500 hrs)	%	ASTM D 4355	>85	
PH			2 – 13	

C. Filter fabric shall be Polyfelt TS 700, Trevira 1125 or SuPac 7-MP.

## 2.06 CONCRETE

Concrete for initial backfill or encasement shall have a compressive strength of not less than 3,000 psi, with not less than 5.5 bags of cement per cubic yard and a slump between 3 and 5-inches. Ready-mixed concrete shall be mixed and transported in accordance with ASTM C 94. Reinforcing steel shall conform to the requirements of ASTM A 615, Grade 60.

## 2.07 FLOWABLE FILL

Flowable fill, where required for backfill, shall meet the requirements of Georgia Department of Transportation Standard Specifications, Section 600 for Excavatable or Non-Excavatable type.

# PART 3 EXECUTION

## 3.01 GENERAL

- A. Safety: Comply with local regulations and with the provisions of the “Manual of Accident Prevention in Construction” of the Associated General Contractors of America, Inc., Occupational Safety and Health Act and all other applicable safety regulations.
- B. Topsoil
  - 1. Remove all topsoil to a depth at which subsoil is encountered, from all areas under buildings, pavements, and from all areas which are to be cut to lower grades or filled.
  - 2. With the Norcross Project Manager's approval or if noted on plans, topsoil to be used for finish grading may be stored on the site.
  - 3. Other topsoil may be used for fill in non-critical areas with approval of the Norcross Project Manager.
  - 4. Properly dispose of all excess topsoil in the designated area.
- C. Bracing and Sheeting

1. Furnish, put in place, and maintain all sheeting, bracing, and shoring as may be required to properly support the sides of all excavations and to prevent all movement of earth which could in any way injure the work, adjacent property or workers.
2. Properly support all excavations where necessary to conform to all pertinent rules and regulations and these Specifications, even though, such locations are not indicated on the Drawings.
3. Exercise care in the removal of sheeting, shoring, bracing and timbering to prevent collapse or caving of the excavation faces being supported and damage to the work and adjacent property.
4. Do not leave any sheeting or bracing in the trench or excavation after completion of the work, unless approved by the Norcross Project Manager.

D. Obstructions

1. Remove and dispose of all boulders, sidewalks, driveways, pavement, pipes, and the like, as required for the performance of the work.
2. Exercise care in excavating around catch basins, inlets and manholes so as to not disturb or damage these structures.
3. Avoid removing or loosening castings or pushing dirt into catch basins, inlets and manholes.
4. Damaged or displaced structures or casting shall be repaired, replaced and dirt entering the structures during the performance of the work shall be removed at no additional cost to the Owner.

E. Utilities to be Abandoned

1. When pipes, conduits, sewers, or other structures are removed from the trench, leaving dead ends in the ground, such ends shall be fully plugged or sealed with brick and non-shrink grout.
2. Abandoned structures such as manholes or chambers shall be entirely removed unless otherwise noted.
3. All materials from abandoned utilities shall be removed from the site.
4. All salvageable materials shall become the property of the Contractor unless otherwise noted.
5. All equipment to be salvaged and remain the property of the Owner shall be turned over to the Owner at a designated location.

F. Extra Earth Excavation

1. In case soft or excessively wet material which, in the opinion of the Norcross Project Manager, is not suitable, is encountered below the final subgrade elevation of an excavation or underneath a structure, the Norcross Project Manager may order the removal of this material and its replacement with

crushed stone, filter fabric, or other suitable material in order to make a suitable foundation for the construction of the structure.

**G. Cutting Paved Surfaces and Similar Improvements**

1. Remove existing pavement as necessary for installing pipe utilities and appurtenances or as otherwise shown on the Drawings.
2. Before removing any pavement, mark the pavement neatly, paralleling pipe lines and existing street lines. Space the marks the width of the trench.
3. Break asphalt pavement along the marks using rotary saws or other suitable tools. Break concrete pavement along the marks by use of scoring with a rotary saw and breaking below the score by the use of jackhammers or other suitable tools.
4. Do not pull pavement with machines until completely broken and separated from pavement to remain.
5. Do not disturb or damage the adjacent pavement. If the adjacent pavement is disturbed or damaged, remove and replace the damaged pavement. No additional payment will be made for removing and replacing damaged adjacent pavement.
6. Remove and replace sidewalks disturbed by construction for their full width and to the nearest undisturbed joint.
7. The Contractor may tunnel under curbs that are encountered. Remove and replace any curb disturbed by construction to the nearest undisturbed joint.

**3.02 EXCAVATION**

**A. Method**

1. All excavation shall be by open cut from the surface except as indicated on the Drawings.
2. All excavations for pipe appurtenances and structures shall be made in such a manner, and to such depth and width, as will give ample room for building the structures, and for bracing, sheeting, and supporting the sides of the excavation, for pumping and draining groundwater which may be encountered, and for the removal from the excavation of all materials excavated.
3. Take special care so that the soil below the bottom of the structure to be built is left undisturbed.

**B. Grades:** Excavate to grades indicated on the Drawings. Where excavation grades are not indicated on the Drawings, excavate as required to accommodate installation.

**C. Disposal of Excavated Material**

1. Remove and properly dispose of all excavated material not needed to complete filling, backfilling and grading.

2. Dispose of excess earth and rock excavated materials at locations on-site designated by the Norcross Project Manager. Off-site disposal of all other material shall be and in accordance with all requirements of federal, state, county, and municipal regulations. No debris of any kind shall be deposited in any stream or body of water, or on any street. No debris shall be deposited on any private property, except by written consent of the property owner. In no case shall any material be shoved onto abutting private properties, or be buried in embankments or trenches on the Project.

### **3.03 EXCAVATING FOR STRUCTURES**

- A. Earth Excavation: Earth excavation shall include all substances to be excavated other than rock. Earth excavation for structures shall be to limits not less than two feet outside wall lines, to allow for formwork and inspection, and further as necessary to permit the trades to install their work. All materials loosened or disturbed by excavation shall be removed from surfaces to receive concrete or crushed stone.
- B. Excavation for Foundations: Footings and slabs on grades shall rest on undisturbed earth, rock or compacted materials to insure proper bearing.
  1. Unsuitable Foundation Material: Any material, in the opinion of the Norcross Project Manager, which is unsuitable for foundation shall be removed and replaced with compacted crushed stone, or with compacted fill material as directed by the Norcross Project Manager. No determination of unsuitability will be made until all requirements for dewatering are satisfactorily met.
  2. Foundation in Rock: Foundations for a structure shall be on similar materials. Should excavation for a foundation be partially in rock, the Contractor shall undercut that portion of the rock 12-inches and bring the excavation to grade with compacted crushed stone.
  3. Pipe Trenches Beneath Structures: Where piping or conduit passes beneath footings or slabs resting on grade, trenches shall be excavated to provide a minimum 6-inch clearance from all surfaces of the pipe or conduit. The trench shall be backfilled to the base of the structure with concrete.
  4. Unauthorized Excavation: Care shall be taken that excavation does not extend below bottom levels of footings or slabs on earth or rock. Should the excavation, through carelessness or neglect, be carried below such levels, the Contractor shall fill in the resulting excess excavation with concrete under footings and compacted crushed stone or other approved material under slabs. Should excavation be carried beyond outside lines of footings such excess excavation shall be filled with concrete, or formwork shall be provided, as directed by the Norcross Project Manager.
- C. Unsuitable Bearing
  1. If suitable bearings for foundations are not encountered at the elevations indicated on the Drawings, immediately notify the Norcross Project Manager.

2. Do not proceed further until instructions are received.

### **3.04 DEWATERING REQUIREMENT**

- A. The Contractor may use any dewatering method he deems feasible so long as it results in working in the dry and stable soil conditions.
- B. The Contractor shall conform and meet all conditions, obtain necessary permits and requirements of the regulatory agencies that have jurisdiction.
- C. It is the intent of these specifications that an adequate dewatering system be installed to lower and control the groundwater in order to permit excavation, construction, grading and the placement of fill materials, all to be performed under dry conditions. The dewatering system shall be adequate to pre-drain the water-bearing strata above and below the bottom of the excavation.
- D. The Contractor shall be solely responsible for the arrangement, location and depths of dewatering system necessary to accomplish the work described under this section of the specifications. The dewatering shall be accomplished in a manner that will reduce the hydrostatic head below any excavation to the extent that the water level in the construction area are a minimum of three (3) feet below the prevailing excavation surface and any surface to be compacted; will prevent the loss of fines, seepage, boils, quick conditions, or softening of the foundation strata; will maintain stability of the sides and bottom of the excavation; and will result in all construction operations being performed in the dry.
- E. The Contractor shall promptly dispose of all water removed from the excavations in such a manner as will not endanger public health, damage public or private property, or affect adversely any portion of the work under construction or completed by him or any other Contractor. Contractor shall obtain written permission from Norcross and the Private Owner for any property involved before digging ditches or constructing water courses for the removal of water.
- F. The disposal of water from the dewatering system shall meet the requirements of all regulatory agencies having jurisdiction.
- G. If the dewatering requirements are not satisfied due to inadequacy or failure of the dewatering system, then loosening of the foundation strata, or instability of the slopes, or damage to the foundations or structures may occur. The supply of all labor and materials, and the performance of all work necessary to carry out additional work for reinstatement of the structures of foundation soil resulting from such inadequacy or failure shall be undertaken by the Contractor subject to the approval of the Norcross Project Manager, and at no additional expense to Norcross.

### **3.05 ROCK EXCAVATION**

- A. Definition of Mass Rock (only for payment purposes where payment is on a unit quantity basis): Any material which cannot be excavated with a single-tooth ripper

drawn by a crawler tractor having a minimum draw bar pull rated at not less than 56,000 pounds (comparable to Caterpillar D 8K or comparable to Caterpillar 973 front-end loader, and occupying an original volume of at least one cubic yard). The Norcross Project Manager shall be the sole determinate as to the limits to which the material is classified as rock.

- B. Definition of Trench Rock (only for payment purposes where payment is on a unit quantity basis): Any material which cannot be excavated with a backhoe having a bucket curling force rated at not less than 25,700 pounds (Caterpillar Model 225 or equivalent), and occupying an original volume of at least one-half (1/2) cubic yards.
- C. Excavation: Where rock is encountered within excavation for structures, it shall be excavated to the lines and grades indicated on the Drawings or as otherwise directed by the Norcross Project Manager. The Contractor shall be responsible for obtaining any blasting permits required.
- D. Blasting: No blasting will be allowed except via written authorization of the Norcross Project Manager. If allowed, blasting operations shall be conducted in accordance with all existing ordinances and regulations. All structures shall be protected from the effects of the blast. Blasting shall be performed and supervised by qualified and licensed workers. Dispose of excavated rock in accordance with applicable federal, state, county and local regulations. All blasting within 750 ft of an inhabited structure and or roadway must be seismic monitored for ground and air vibrations. Peak Particle Velocity shall be measured at nearest structure and shall be 0.5 inch per second or less during blasts. Shots must be covered with at least 6 feet of earthen and synthetic cover (blasting mats). Bore hole diameter must not exceed 4" in diameter. Blast hole cannot exceed 20 feet of solid rock with single delay detonator (in terms, if drill depth exceeds more than 20 feet in depth, decking must be done, accomplish by using multiple detonators in the blast hole. The blast holes must be stemmed with gravel, 89/57 stone. Pre-blast inspections are required. Inspections shall be via an engineer that includes inspection of structure, and pictures of any existing damage or cracks that structure may have prior to blasting.
- E. If excess excavation is made or the material becomes disturbed so as to require removal below final subgrade elevations or beyond the prescribed limits, the resulting space shall be refilled with concrete in accordance with Section 2.07 of this Specification
- F. Measurement for Payment

All rock excavation shall be paid for as an incidental part of the item on which the work is done except where a separate, unqualified item for rock excavation is indicated in the BID FORM or where rock excavation is ORDERED as an EXTRA by the OWNER, by WRITTEN ORDER. Where payment for rock excavation is established by the BID FORM or ORDERED as an EXTRA by the OWNER, CONTRACTOR shall be paid only for the quantity of rock removed, measured as follows:

- A. For all masonry structures such as buildings, tanks, vaults, catch basins, manholes and the like, the horizontal rock measurement shall be made to

include 2-1/2 feet from the outside face of finished vertical sidewall of such structure and the vertical rock measurement shall be made from the top elevation of the rock, before disturbed or removed, to the elevation of the under or lower side of the bottom concrete slab of the structure. Any projection below the bottom slab of any structure required for sump, well, or other pertinent construction shall be measured separately.

- B. For installation of pipe lines and fittings the horizontal rock measurement shall be the nominal outside diameter of the pertinent pipe plus 16-inches, except, however, that no horizontal measurement shall be considered to be less than 27-inches; the vertical rock measurement shall be made from the top elevation of the rock, before disturbance or removal, to an elevation of 9-inches below the bottom outside surface of the pipe for pipe having a diameter of 8-inches through 24-inches, and to an elevation of 12-inches below the bottom outside surface of the pipe for all pipe having a diameter greater than 24-inches.

G. Excess Rock Excavation

If rock excavated beyond the limits of payment indicated on the Drawings, specified, or authorized in writing by the OWNER, the excess excavation whether resulting from overbreakage or other causes, shall be backfilled, by and at the expense of the CONTRACTOR.

H. Shattered Rock

If rock below normal depth is shattered due to drilling or blasting operations and such shattered rock is unfit for foundations, the shattered rock shall be removed and the excavation shall be backfilled as described above in EXCESS ROCK EXCAVATION. All such removal and backfilling shall be done at the expense of the CONTRACTOR.

### 3.06 COMPACTION

- A. Fill materials supporting roadways, parking areas, sidewalks, structures, and buildings and backfill around structures shall be compacted to 95 percent of the standard proctor density. The top 12-inches of fill materials supporting structures, concrete pads, pavement, curb and gutter shall be compacted to 98 percent of the standard proctor density. Fill placed for general site grading shall be compacted to 90 percent of the standard proctor density.
- B. Compaction of embankments shall be by vibratory sheepsfoot or pad-foot rollers with staggered, uniformly spaced knobs and suitable cleaning devices. The projected area of each knob and the number and spacing of the knobs shall be such that the total weight of the roller and ballast when distributed over the area of one row of knobs shall be 250 psi. Placement and compaction of materials shall extend at least 5 feet beyond the final contours sufficiently to insure compaction of the material at the resulting final surface. Final contours shall then be achieved by a tracked bulldozer shaping the face of the embankment.

- C. Compaction of backfill next to walls shall be accomplished with hand-powered tamping equipment. The backfill shall be placed in 8-inch maximum lifts, with each lift compacted to 95 percent of standard proctor density.
- D. If tests indicate that density of fill is less than that specified, the area shall be, as directed by the Norcross Project Manager, either recompacted or undercut, filled, and compacted until specified density is achieved.

### **3.07 FILL**

#### **A. Controlled Fill**

1. The fill for roadways, parking areas, walks, structures, and building slabs on grade shall be controlled fill.
2. After the existing ground or excavated area has been proofrolled and examined by the Norcross Project Manager, all holes and other irregularities shall be filled and compacted before the main fill is placed.
3. The fill shall be placed in even layers not exceeding 8-inches in depth and shall be thoroughly compacted as herein specified.
4. If an analysis of the soil being placed shows a marked difference from one location to another, the fill being placed shall not be made up of a mixture of these materials.
5. Each different type of material shall be handled continuously so that field control of moisture and density may be based upon a known type of material.
6. No fill shall be placed following a heavy rain without first making certain on isolated test areas that compaction can be obtained without damage to the already compacted fill.

#### **B. Proofrolling**

1. All areas where roadways, parking areas, sidewalks, structures, and buildings are to be constructed on cut areas, compacted fill, and other areas where indicated on the Drawings, shall be proofrolled to detect soft spots prior to the placement of fill material or building foundations.
2. Proofrolling shall be performed using a fully loaded tandem-axle dump truck 20 tons or other suitable pneumatic tired equipment over the subgrade before the subgrade is shaped.
3. Proofrolling shall be witnessed by the Norcross Project Manager.
4. Subgrade shall be proofrolled with 10 overlapping passes of the roller. Depressions that develop during the proofrolling operation shall be filled with suitable material and those filled areas shall be proofrolled with six passes of the roller. If, after having been filled and proofrolled, the subgrade areas that still “pump” or “rut”, shall be further evaluated by a geotechnical engineer, and remedial work be determined based on the conditions found at locations under

structures or pavement. The contractor shall execute remedial work determined by the geotechnical engineer to achieve a subgrade acceptable to the Norcross Project Manager.

5. After the proofrolled subgrade has been accepted by the Norcross Project Manager, the surface of the subgrade shall be finish rolled with a smooth steel wheel roller weighing not less than 10 tons. Finished surface of the subgrade shall be within a tolerance of 1/4-inch at every point.
6. Conduits, pipes, culverts, and underdrains shall be neither disturbed nor damaged by proofrolling operations. Rollers shall neither pass over, nor approach closer than five feet to, conduits, pipes, culverts, and underdrains unless the tops of those products are deeper than three feet.

C. Placement

1. Prior to placement of any material in embankments, the area within embankment limits shall be stripped of topsoil and all unsuitable materials removed in accordance with this Section. The area shall then be scarified to a depth of at least 6-inches.
2. Fill materials shall be placed in continuous, approximately horizontal layers extending the full width of the embankment cross-section and the full dimension of the excavation where practical and having an uncompacted thickness of not over 8-inches.

D. Final Grading: Upon completion of construction operations, the area shall be graded to finish contour elevations and grades shown on the Drawings. Graded areas shall be made to blend into conformation with remaining ground surfaces. All surfaces shall be left smooth and free to drain.

E. Excess Material: Surfaces and slopes of waste fills shall be left smooth and free to drain.

F. Moisture

1. Fill materials shall be placed at optimum moisture content within practicable limits, but not less or more than two percent of optimum. Optimum moisture shall be maintained by sprinkling the layers as placed or by allowing materials to dry before placement.
2. If fill material is too wet, provide and operate approved means to assist the drying of the fill until suitable for compaction.
3. If fill material is too dry, provide and operate approved means to add moisture to the fill layers.

### 3.08 BACKFILLING

A. Backfill carefully to restore the ground surface to its original condition. Dispose of excess material in accordance with this Section.

- B. Compact backfill underlying roadways, parking areas, sidewalks, structures and buildings in accordance with the requirements of Article 3.06 of this Section.
- C. Backfilling Around Structures
  - 1. General
    - a. Remove debris from excavations before backfilling.
    - b. Do not backfill against foundation walls until so directed by the Norcross Project Manager nor until all indicated perimeter insulation and/or waterproofing is in place.
    - c. Protect such insulation and/or waterproofing during filling operations.
    - d. Do not backfill against water retaining structures until successful leakage tests have been completed.
    - e. Wherever possible, backfilling shall be simultaneous on both sides of walls to equalize lateral pressures.
    - f. Do not backfill against walls until all permanent construction is in place to furnish lateral support on both top and bottom of wall.
    - g. Backfilling against walls shall take place after all the concrete in the affected members has attained the specified strengths.
    - h. To prevent excessive lateral pressure on external walls, large compaction equipment shall not be allowed within a zone wall footing.
  - 2. Materials: Backfill material placed against structures built or encountered during the work of this Section shall be suitable fill material. No broken concrete, bricks or similar materials will be permitted as backfill.

### **3.09 GRADING**

- A. General: Perform all rough and finish grading required to attain the elevations indicated on the Drawings. Perform finish grading to an accuracy of  $\pm 0.10$  foot.
- B. Treatment After Completion of Grading
  - 1. After grading is completed, permit no further excavation, filling or grading, except with the approval of the Norcross Project Manager.
  - 2. Use all means necessary to prevent the erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

### **3.10 SETTLEMENT**

- A. The Contractor shall be responsible for all settlement of backfill, fills and embankments which may occur within one year after final acceptance of the Work by the Owner.

- B. The Contractor shall make, or cause to be made, all repairs or replacements made necessary by settlement within 30 days after receipt of written notice from the Norcross Project Manager or Owner.

### **3.11 CLEAN-UP**

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing surface water.

**END OF SECTION**

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TRENCH EXCAVATION AND BACKFILL

**PART 1 GENERAL**

**1.01 SCOPE**

- A. The work under this Section consists of furnishing all labor, equipment and materials and performing all operations in connection with the trench excavation and backfill required to install the site utilities, including all pipelines, electrical conduits, and duct banks as shown on the plans and as specified.
- B. Excavation shall include the removal of any tree stumps, brush, debris or other obstacles which remain after the clearing and grubbing operations, which may obstruct the work, and the excavation and removal of all earth, rock or other materials to the extent necessary to install the pipe and appurtenances in conformance with the lines and grades shown on the plans and as specified.
- C. Backfill shall include the filling and compaction of the trenches and excavations up to the surrounding ground surface or road grade at crossing.
- D. The trench is divided into five specific areas:
  - 1. Foundation: The area beneath the bedding, sometimes also referenced to as trench stabilization.
  - 2. Bedding: The area above the trench bottom (or foundation) and below the bottom of the barrel of the pipe.
  - 3. Haunching: The area above the bottom of the barrel of the pipe up to a specified height above the bottom of the barrel of the pipe.
  - 4. Initial Backfill: The area above the haunching material and below a plane 12-inches above the top of the barrel of the pipe.
  - 5. Final Backfill: The area above a plane 12-inches above the top of the barrel of the pipe.
- E. The choice of method, means, techniques and equipment rests with the Contractor. The Contractor shall select the method and equipment for trench excavation and backfill depending upon the type of material to be excavated and backfilled, the depth of excavation, the amount of space available for operation of equipment, storage of excavated material, proximity of man-made improvements to be protected, available easement or right-of-way and prevailing practice in the area.

**1.02 RELATED SECTIONS**

- A. Geotechnical report: Section 00 31 32 (If Provided in bidding documents)
- B. Site Clearing: Section 31 10 00.

- C. Earth Moving 30 20 00.

### 1.03 GENERAL

- A. The elevations shown on the Drawings as existing are taken from the best existing data and are intended to give reasonably accurate information about the existing elevations. They are not precise and the Contractor shall become satisfied as to the exact quantities of excavation and fill required.
- B. Earthwork operations shall be performed in a safe and proper manner with appropriate precautions being taken against all hazards.
- C. All excavated and filled areas for structures, trenches, fills, topsoil areas, embankments, and channels shall be maintained by the Contractor in good condition at all times until final acceptance by the Owner. All damage caused by erosion or other construction operations shall be repaired by the Contractor using material of the same type as the damaged material.
- D. The Contractor shall control grading in a manner to prevent surface water from running into excavations. Obstruction of surface drainage shall be avoided and means shall be provided whereby storm water can be uninterrupted in existing gutters, other surface drains, or temporary drains. Free access must be provided to all fire hydrants and meters.
- E. Tests for compaction and density shall be conducted by the Norcross Project Manager or by an independent testing laboratory selected in accordance with Section 01 45 29 of these Specifications.
  - 1. The soils testing laboratory is responsible for the following:
    - a. Field compaction testing shall be based on using the maximum dry density determined by the Standard Proctor Compaction Test in accordance with ASTM D 698.
    - b. Determination of in-place backfill density shall be done in accordance with ASTM D 1556, "Density and unit weight of Soil In Place by the Sand-Cone Method", ASTM D 2937, "Density of Soil In Place by the Drive-Cylinder Method" or ASTM D 2922, "Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)".
    - c. Test frequency for trenches and confined areas of 1 test per two foot vertical lift for every 100 linear feet.
    - d. Inspecting and testing stripped site, subgrades and proposed fill materials.
  - 2. Contractor's duties relative to testing include:
    - a. Notifying laboratory of conditions requiring testing.
    - b. Coordinating with laboratory for field testing.
    - c. Providing representative fill soil samples to the laboratory for test

purposes. Provide 50 pound samples of each fill soil.

3. Inspection

- a. Earthwork operations, suitability of excavated materials for fill and backfill, and placing and compaction of fill and backfill is subject to inspection. Norcross Project Manager will observe earthwork operations.
- b. Foundations and shallow spread footing foundations are required to be inspected by an engineer to verify suitable bearing and construction.

F. All earthwork operations shall comply with the requirements of OSHA Construction Standards, Part 1926, Subpart P, Excavations, Trenching, and Shoring, and Subpart O, Motor Vehicles, Mechanized Equipment, and Marine Operations, and shall be conducted in a manner acceptable to the Norcross Project Manager.

G. It is understood and agreed that the Contractor has made a thorough investigation of the surface and subsurface conditions of the site and any special construction problems which might arise as a result of nearby watercourses and floodplains. The Contractor shall be responsible for providing all services, labor, equipment, and materials necessary or convenient to the Contractor for completing the work within the time specified in these Contract Documents.

H. Safety

Perform all trench excavation and backfilling activities in accordance with the Occupational Safety and Health Act of 1970 (PL 91-596), as amended. The Contractor shall pay particular attention to the Safety and Health Regulations Part 1926, Subpart P “Excavation, Trenching & Shoring” as described in OSHA publication 2226.

## PART 2 PRODUCTS

### 2.01 SOILS CLASSIFICATIONS

Bedding materials listed here include a number of processed materials plus the soil types defined according to the Unified Soil Classification System (USCS) in ASTM D 2487, Standard Method for Classification of Soils for Engineering Purposes. (See below for description of soil classification). These materials are grouped into five broad categories according to their suitability for this application:

- A. Class I - Angular, 1/4 to 1 1/2 inches (6 to 40 mm) graded stone, including such as coral, slag, cinders, crushed shells and crushed stone. Note - The size range and resulting high voids ratio of Class I material make it suitable for use to dewater trenches during pipe installation. This permeable characteristic dictates that its use be limited to locations where pipe support will not be lost by migration of other embedment materials into the Class I material. When such migration is possible,

the material's minimum size range should be reduced to finer than 1/4 inch (6 mm) and the gradation properly designed to limit the size of the voids.

- B. Class II - Coarse sands and gravels with maximum particle size of 1 1/2 inch (40 mm), including variously graded sands and gravels containing small percentages of fines, generally granular and non-cohesive, either wet or dry. Soil Types GW, GP, SW and SP are included in this class. Note - Sands and gravels which are clean or borderline between clean and with fines should be included. Coarse-grained soils with less than 12% but more than 5% fines are neglected in ASTM D2487 and the USCS and should be included. The gradation of Class II material influences its density and pipe support strength when loosely placed. The gradation of Class II material influences its density and pipe support strength when loosely placed. The gradation of Class II material may be critical to the pipe support and stability of the foundation and embedment if the material is imported and is not native to the trench excavation. A gradation other than well graded, such as uniformly graded or gap graded, may permit loss of support by migration into void spaces of a finer grained natural material from the trench wall and foundation.
- C. Class III - Fine sand and clayey (clay filled) gravels, including fine sands, sand-clay mixtures and gravel-clay mixtures. Soil Types SM, GC, SM, and SC are included in this class.
- D. Class IV - Silt, silty clays and clays, including inorganic clays and silts of not to high plasticity and liquid limits. Soil Types MH, ML, CH, and CL are included in this class. Note- Caution should be used in the design and selection of the degree and method of compaction for Class IV soils because of the difficulty in properly controlling the moisture content under field conditions. Some Class IV soils with medium to high plasticity and with liquid limits greater than 50% (CH, MH, CH-MH) exhibit reduced strength when wet and should only be used for bedding, haunching and initial backfill in arid locations where the pipe embedment will not be saturated by ground water, rainfall and/or exfiltration from the pipeline system. Class IV soils with low to medium plasticity and with liquid limits lower than 50% (CL, ML, CL-ML) also require careful consideration in design and installation to control moisture content but need not be restricted in use to arid locations.
- E. Class V - This class includes the organic soils OL, OH, and PT as well as soils containing frozen earth, debris, rocks larger than 1 1/2 inch (40 mm) in diameter, and other foreign materials. These materials are not recommended for bedding, haunching or initial backfill.

**DESCRIPTION OF EMBEDMENT MATERIAL CLASSIFICATIONS**

SOIL CLASS	SOIL TYPE	DESCRIPTION MATERIAL CLASSIFICATION
Class I Soils *	---	Manufactured angular, granular material, 3/4 to 1 1/2 inches (6 to 40 mm) size, including materials having regional significance such as crushed stone, or rock, broken coral, crushed slag, cinders, or crushed shells.

SOIL CLASS	SOIL TYPE	DESCRIPTION MATERIAL CLASSIFICATION
Class II Soil **	GW	Well-graded gravels and gravel-sand mixtures, little or no fines. 50% or more retained on No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines. 50% or more retained on No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
	SW	Well-graded sands and gravelly sands, little or no fines. More than 50% passes No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
	SP	Poorly graded sands and gravelly sand, little or no fines. More than 50% passes No. 4 sieve. More than 95% retained on No. 200 sieve. Clean.
Class III Soil ***	GM	Silty gravels, gravel-sand-silt mixtures. 50% or more retained on No. 200 sieve.
	GC	Clayey gravels, gravel-sand-clay mixtures. 50% or more retained on No. 4 sieve. More than 50% retained on No. 200 sieve.
	SM	Silty sands, sand-silt mixtures. More than 50% passes No. 4 sieve. More than 50% retained on No. 200 sieve.
	SC	Clayey sands, sand-clay mixtures. More than 50% passes No. 4 sieve. More than 50% retained on No. 200 sieve.
Class IV Soils	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts. Liquid limit greater than 50%. 50% or more passes No. 200 sieve.

SOIL CLASS	SOIL TYPE	DESCRIPTION MATERIAL CLASSIFICATION
	CH	Inorganic clays of high plasticity, fat clays. Liquid limit greater than 50%. 50% or more passes No. 200 sieve.
Class V Soils	OL	Organic silts and organic silty clays of low plasticity. Liquid limit 50% or less. 50% or less. 50% or more passes No. 200 sieve.
	OH	Organic clays of medium to high plasticity. Liquid limit 50% or less. 50% or more passes No. 200 sieve.
	PT	Peat, muck and other highly organic soils.

\* Soils defined as Class I materials are not defined in ASTM D2487.

\*\* In accordance with ASTM D2487, less than 5% pass No. 200 sieve.

\*\*\* In accordance with ASTM D2487, more than 12% pass No. 200 sieve. Soils with 5% to 12% pass No. 200 sieve fall in borderline classification, e.g. GP-GC.

## 2.02 PIPE BEDDING CLASSES

- A. Class A Bedding shall consist of a continuous concrete cradle as determined by the Engineer.
- B. Class B Bedding: The pipe shall be bedded with No. 57 stone bedding material placed on the trench foundation. The bedding shall have a minimum thickness beneath the pipe of 4 inches or one-eighth of the outside diameter of the pipe, whichever is greater, and shall extend up the side to the springline. Initial backfill from the pipe horizontal centerline to a level not less than 12 inches above the top of the pipe and shall be bedding material or carefully placed native soil, compacted to 90% of Standard Proctor Density. The final backfill of the soil to ground surface shall be compacted to the specified density.
- C. Class C Bedding: The pipe shall be bedded in No. 57 stone bedding material placed on the trench foundation. The bedding shall have a minimum thickness beneath the pipe of 4 inches or one-eighth of the outside diameter of the pipe, whichever is greater, and shall extend up the sides of the pipe one-sixth the outside diameter of the pipe. Initial backfill between the top of haunching and a point 12 inches above the top of pipe shall be compacted to 90% of Standard Proctor Density. The final backfill of the soil to ground surface shall be compacted to the specified density.
- D. Crushed stone utilized for bedding and haunching shall meet the requirements of the Georgia Department of Transportation Specification 800.01, Group I (limestone, marble or dolomite) or Group II (quartzite, granite or gneiss). Stone size shall be between No. 57 and No. 4, inclusive.

### 2.03 TRENCH FOUNDATION MATERIALS

When unsuitable material is encountered and extends more than 6 inches below the pipe. Crushed stone shall be utilized for trench foundation (trench stabilization) and shall meet the requirements of the Georgia Department of Transportation Specification 800.01, Group I (limestone, marble or dolomite) or Group II (quartzite, granite or gneiss). Stone size shall be between No. 57 and No. 4, inclusive or Class I material.

### 2.04 FILTER FABRIC

- A. Filter fabric associated with bedding shall be a UV stabilized, spunbonded, continuous filament, needle punched, polypropylene, nonwoven geotextile.
- B. The fabric shall have an equivalent open size (EOS or AOS) of 120 - 70. The fabric shall also conform to the minimum property values listed in the following table:

Fabric Property	Unit	Test Procedure	Average Value	
			Typical	Minimum
Weight	oz/yd <sup>2</sup>	ASTM D 3776	8.3	
Thickness	mils	ASTM D 1777	105	
Grab Strength	lbs.	ASTM D 4632	240	210
Grab Elongation	%	ASTM D 4632	>50	50
Tear Strength	lbs.	ASTM D 4533	100	85
Mullen Burst	psi	ASTM D 3786	350	320
Puncture Resistance	lbs.	ASTM D 4833	115	100
Permittivity	sec <sup>-1</sup>	ASTM D 4491	1.7	
Water Permeability	cm/sec	ASTM D 4491	0.4	
Water Flow Rate	gpm/ft <sup>2</sup>	ASTM D 4491	120	
UV Resistance (500 hrs)	%	ASTM D 4355	>85	
PH			2 - 13	

- C. If ordered by the Norcross Project Manager, the filter fabric manufacturer shall furnish the services of a competent factory representative to supervise and/or inspect the installation of pipe. This service will be furnished for a minimum of 10 days during initial pipe installation.
- D. Filter fabric shall be Polyfelt TS 700, Trevira 1125 or SuPac 7-MP.

### 2.05 BEDDING AND HAUNCHING MATERIALS

- A. Crushed stone utilized for bedding and haunching shall meet the requirements of the Georgia Department of Transportation Specification 800.01, Group I (limestone, marble or dolomite) or Group II (quartzite, granite or gneiss). Stone size shall be between No. 57 and No. 4, inclusive.
- B. Earth materials shall be suitable materials selected from the trench excavation.

Suitable materials shall be clean and free of rock larger than 2-inches at its largest dimension, organics, cinders, stumps, limbs, frozen earth or mud, man-made wastes and other unsuitable materials. Should the material excavated from the trench be saturated, the saturated material may be used as earth material, provided it is allowed to dry properly and it is capable of meeting the specified compaction requirements. When necessary, earth bedding and haunching materials shall be moistened to facilitate compaction by tamping.

## **2.06 INITIAL BACKFILL**

- A. Initial backfill material shall be earth materials or crushed stone as specified for bedding and haunching materials. Soil shall be tamped to 90% of Standard Proctor Density (ASTM D698).
- B. Earth materials utilized for initial backfill shall be suitable materials selected from materials excavated from the trench. Suitable materials shall be clean and free of rock larger than 2-inches at its largest dimension, organics, cinders, stumps, limbs, frozen earth or mud, man-made wastes and other unsuitable materials. Should the material excavated from the trench be saturated, the saturated material may be used as earth material, provided it is allowed to dry properly and it is capable of meeting the specified compaction requirements. When necessary, initial backfill materials shall be moistened to facilitate compaction by tamping. If materials excavated from the trench are not suitable for use as initial backfill material, provide select material conforming to the requirements of this Section.

## **2.07 FINAL BACKFILL**

- A. Final backfill material shall be general excavated earth materials, shall not contain rock larger than 2-inches at its greatest diameter, cinders, stumps, limbs, man-made wastes and other unsuitable materials. If materials excavated from the trench are not suitable for use as final backfill material, provide select material conforming to the requirements of this Section.
- B. In areas not used for streets or driveways, carefully refill in layers not exceeding 8 inches in thickness and thoroughly tamp with hand tamps to one foot above the top of the pipe. Finish filling by machine without tamping. As trench settles, bring back to grade by adding more material. Maintain trenches in safe condition at all times. Restore all special grassing and shrubbery, fences, etc., to original condition. The remaining backfill shall be thoroughly compacted in 8 inch layers to at least 95% (percent) of the Standard Proctor Density (ASTM D698).
- C. In streets, roadways and driveways, carefully refill in layers not exceeding 8 inches in thickness and thoroughly tamp with hand tamps to one foot above the top of the pipe. The remaining backfill shall be thoroughly compacted in 8 inch layers to at least 98% (percent) of the Standard Proctor Density (ASTM D698).
- D. Backfilling and tamping work in state highway right-of-ways and streets under jurisdiction of the State Highway Department will be in accordance with the State

of Georgia Department of Transportation "Policy and Procedure for Accommodation of Utilities".

## **2.08 CONCRETE**

Concrete for bedding, haunching, initial backfill or encasement shall have a compressive strength of not less than 3,000 psi, with not less than 5.5 bags of cement per cubic yard and a slump between 3 and 5-inches. Ready-mixed concrete shall be mixed and transported in accordance with ASTM C 94. Reinforcing steel shall conform to the requirements of ASTM A 615, Grade 60.

## **2.09 FLOWABLE FILL**

Flowable fill, where required for trench backfill, shall meet the requirements of Georgia Department of Transportation Standard Specifications, Section 600 for Excavatable or Non-Excavatable type.

# **PART 3 EXECUTION**

## **3.01 EXAMINATION**

- A. Identify required lines, levels, contours, and datum locations.
- B. Locate, identify, and protect utilities that remain and protect from damage. The contractor is required to contact the Utilities Protection Center, Inc. in the State of Georgia call 811 prior to any excavation or construction. Additional information is available at [www.gaupc.com](http://www.gaupc.com). The contractor shall first, Call Before You Dig. Second, Wait the Required Amount of Time. Third, Respect the Marks and Lastly, Dig With Care.
- C. Notify utility company to remove and relocate utilities.

## **3.02 TRENCH EXCAVATION**

- A. Notify of unexpected subsurface conditions and discontinue affected Work in area until notified to resume work.
- B. Slope banks of excavations deeper than 4 feet to angle of repose or less until shored.
- C. Do not interfere with 45 degree bearing splay of foundations.
- D. Cut trenches O.D of pipe plus two feet minimum or O.D. of pipe plus four feet maximum wide enough to allow installation and inspection of utilities.
- E. Hand trim excavations. Remove loose matter.
- F. Remove large stones and other hard matter which could damage piping or impede

consistent backfilling or compaction.

- G. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd (0.25 cu m) measured by volume.
- H. Remove excavated material that is unsuitable for re-use from site.
- I. Stockpile excavated material to be re-used in areas designated on site.
- J. Remove excess excavated material from site.
- K. In areas not used for streets and in unpaved streets, maximum trench width shall be the pipe diameter plus 24 inches. Protect all trees, shrubs and structures. Protect all fences and replace those damaged/removed with like kind. Keep work and equipment within easement limits. Repair and replace any damage.
- L. Paved streets shall have a maximum trench width of pipe diameter plus 24 inches. Shore and brace trench walls as necessary to prevent damage to existing paving. Do not cut existing sidewalk, or curb and gutter without approval by the Norcross Project Manager. Use rubber tired equipment only on streets. Repair and replace all damage. Saw cut all pavements for smooth edge on replacement.

### **3.03 DEWATERING REQUIREMENT**

- A. The Contractor may use any dewatering method he deems feasible so long as it results in working in the dry and stable soil conditions.
- B. The Contractor shall conform and meet all conditions, obtain necessary permits and requirements of the regulatory agencies that have jurisdiction.
- C. It is the intent of these specifications that an adequate dewatering system be installed to lower and control the groundwater in order to permit excavation, construction, grading and the placement of fill materials, all to be performed under dry conditions. The dewatering system shall be adequate to pre-drain the water-bearing strata above and below the bottom of the excavation.
- D. The Contractor shall be solely responsible for the arrangement, location and depths of dewatering system necessary to accomplish the work described under this section of the specifications. The dewatering shall be accomplished in a manner that will reduce the hydrostatic head below any excavation to the extent that the water level in the construction area are a minimum of three (3) feet below the prevailing excavation surface and any surface to be compacted; will prevent the loss of fines, seepage, boils, quick conditions, or softening of the foundation strata; will maintain stability of the sides and bottom of the excavation; and will result in all construction operations being performed in the dry.
- E. The Contractor shall promptly dispose of all water removed from the excavations in such a manner as will not endanger public health, damage public or private property, or affect adversely any portion of the work under construction or completed by him or any other Contractor. Contractor shall obtain written permission from Norcross and the Private Owner for any property involved before digging ditches or constructing water courses for the removal of water.

- F. The disposal of water from the dewatering system shall meet the requirements of all regulatory agencies having jurisdiction.
- G. If the dewatering requirements are not satisfied due to inadequacy or failure of the dewatering system, then loosening of the foundation strata, or instability of the slopes, or damage to the foundations or structures may occur. The supply of all labor and materials, and the performance of all work necessary to carry out additional work for reinstatement of the structures of foundation soil resulting from such inadequacy or failure shall be undertaken by the Contractor subject to the approval of the Norcross Project Manager, and at no additional expense to the Owner.

### **3.04 ROCK EXCAVATION**

- A. Definition of Mass Rock (only for payment purposes where payment is on a unit quantity basis): Any material which cannot be excavated with a single-tooth ripper drawn by a crawler tractor having a minimum draw bar pull rated at not less than 56,000 pounds (comparable to Caterpillar D 8K or comparable to Caterpillar 973 front-end loader, and occupying an original volume of at least one cubic yard). The Norcross Project Manager shall be the sole determinate as to the limits to which the material is classified as rock.
- B. Definition of Trench Rock (only for payment purposes where payment is on a unit quantity basis): Any material which cannot be excavated with a backhoe having a bucket curling force rated at not less than 25,700 pounds (Caterpillar Model 225 or equivalent), and occupying an original volume of at least one-half (1/2) cubic yards.
- C. Excavation: Where rock is encountered within excavation for structures, it shall be excavated to the lines and grades indicated on the Drawings or as otherwise directed by the Norcross Project Manager. The Contractor shall be responsible for obtaining any blasting permits required.
- D. Blasting: No blasting will be allowed except via written authorization of the Norcross Project Manager. If allowed, blasting operations shall be conducted in accordance with all existing ordinances and regulations. All structures shall be protected from the effects of the blast. Blasting shall be performed and supervised by qualified and licensed workers. Dispose of excavated rock in accordance with applicable federal, state, county and local regulations. All blasting within 750 ft of an inhabited structure and or roadway must be seismic monitored for ground and air vibrations. Peak Particle Velocity shall be measured at nearest structure and shall be 0.5 inch per second or less during blasts. Shots must be covered with at least 6 feet of earthen and synthetic cover (blasting mats). Bore hole diameter must not exceed 4" in diameter. Blast hole cannot exceed 20 feet of solid rock with single delay detonator (in terms, if drill depth exceeds more than 20 feet in depth, decking must be done, accomplish by using multiple detonators in the blast hole. The blast holes must be stemmed with gravel, 89/57 stone. Pre-blast inspections are required. Inspections shall be via an engineer that includes

inspection of structure, and pictures of any existing damage or cracks that structure may have prior to blasting.

- E. If excess excavation is made or the material becomes disturbed so as to require removal below final subgrade elevations or beyond the prescribed limits, the resulting space shall be refilled with concrete in accordance with Section 2.08 of this Specification

- F. Measurement for Payment

All rock excavation shall be paid for as an incidental part of the item on which the work is done except where a separate, unqualified item for rock excavation is indicated in the BID FORM or where rock excavation is ORDERED as an EXTRA by the OWNER, by WRITTEN ORDER. Where payment for rock excavation is established by the BID FORM or ORDERED as an EXTRA by the OWNER, CONTRACTOR shall be paid only for the quantity of rock removed, measured as follows:

- A. For all masonry structures such as buildings, tanks, vaults, catch basins, manholes and the like, the horizontal rock measurement shall be made to include 2-1/2 feet from the outside face of finished vertical sidewall of such structure and the vertical rock measurement shall be made from the top elevation of the rock, before disturbed or removed, to the elevation of the under or lower side of the bottom concrete slab of the structure. Any projection below the bottom slab of any structure required for sump, well, or other pertinent construction shall be measured separately.

- B. For installation of pipe lines and fittings the horizontal rock measurement shall be the nominal outside diameter of the pertinent pipe plus 16-inches, except, however, that no horizontal measurement shall be considered to be less than 27-inches; the vertical rock measurement shall be made from the top elevation of the rock, before disturbance or removal, to an elevation of 9-inches below the bottom outside surface of the pipe for pipe having a diameter of 8-inches through 24-inches, and to an elevation of 12-inches below the bottom outside surface of the pipe for all pipe having a diameter greater than 24-inches.

- G. Excess Rock Excavation

If rock excavated beyond the limits of payment indicated on the Drawings, specified, or authorized in writing by the OWNER, the excess excavation whether resulting from overbreakage or other causes, shall be backfilled, by and at the expense of the CONTRACTOR.

- H. Shattered Rock

If rock below normal depth is shattered due to drilling or blasting operations and such shattered rock is unfit for foundations, the shattered rock shall be removed and the excavation shall be backfilled as described above in EXCESS ROCK EXCAVATION. All such removal and backfilling shall be done at the expense of

the CONTRACTOR.

### **3.05 SHEETING, BRACING AND SHORING**

- A. Trench Shield: A trench shield or box may be used to support the trench walls. The use of a trench shield does not necessarily preclude the additional use of bracing and sheeting. When trench shields are used, care must be taken to avoid disturbing the alignment and grade of the pipe or disrupting the haunching of the pipe as the shield is moved. When the bottom of the trench shield extends below the top of the pipe, the trench shield will be raised in 6-inch increments with specified backfilling occurring simultaneously. At no time shall the trench shield be “dragged” with the bottom of the shield extending below the top of the pipe or utility.
- B. Remove bracing and sheeting in units when backfill reaches the point necessary to protect the utility and adjacent property. Leave sheeting in place when in the opinion of the Norcross Project Manager it cannot be safely removed or is within three feet of an existing structure, utility, or pipeline. Cut off any sheeting left in place at least two feet below the surface.
- C. Sheet piling within three feet of an existing structure or utility shall remain in place, unless otherwise directed by the Norcross Project Manager.

### **3.06 TRENCH FOUNDATION AND STABILIZATION**

- A. The bottom of the trench shall provide a foundation to support the utility and its specified bedding. The trench bottom shall be graded to support the utility and bedding uniformly throughout its length and width.
- B. If, after dewatering as specified above, the trench bottom is spongy, or if the trench bottom does not provide firm, stable footing and the material at the bottom of the trench will still not adequately support the utility, the trench will be determined to be unsuitable.
- C. If in the opinion of the Norcross Project Manager the undisturbed material at the trench bottom constitutes an unstable pipe foundation, then the Contractor shall replace such unstable materials with crushed stone.
- D. If the crushed stone does not provide adequate foundation, then the trench shall be excavated to a depth of at least two feet below the specified trench bottom. The over excavation shall be filled with No. 4 foundation stone to the bottom of the bedding stone or the over excavation shall be lined with filter fabric, with the fabric being supported along the sides of the trench to a point above the top of the utility. The trench shall then be filled with No. 57 foundation stone to the top of the pipe and the filter fabric shall be overlapped above the pipe and stone.

### **3.07 BEDDING AND HAUNCHING**

- A. Prior to placement of bedding material, the trench bottom shall be free of any water, loose rocks, boulders or large dirt clods.
- B. Bedding material shall be placed to provide uniform support along the bottom of the pipe and to maintain the pipe at the proper elevation. The initial layer of bedding placed to receive the pipe shall be brought to the grade and dimensions indicated on the Drawings. All bedding shall extend the full width of the trench bottom. The pipe shall be placed and brought to grade by tamping the bedding material or by removal of the excess amount of the bedding material under the pipe. Adjustment to grade line shall be made by scraping away or filling with bedding material. Wedging or blocking up of pipe shall not be permitted. Applying pressure to the top of the pipe, such as with a backhoe bucket, to lower the pipe to the proper elevation or grade shall not be permitted. Each pipe section shall have a uniform bearing on the bedding for the length of the pipe, except at joints.
- C. At each joint, excavate bell holes of ample depth and width to permit the joint to be assembled properly and to relieve the pipe bell of any load.
- D. After the pipe section is properly placed, add the haunching material to the specified depth. The haunching material shall be shovel sliced, tamped, vigorously chinked or otherwise consolidated to provide uniform support for the pipe barrel and to fill completely the voids under the pipe, including the bell hole. Prior to placement of the haunching material, the bedding shall be clean and free of any water, loose rocks, boulders or dirt clods.
- E. Gravity Pipelines and Accessories: Lay PVC (plastic pipe) gravity sewer pipe with minimum Class B bedding. Lay all other gravity sewer pipelines with Class C bedding, unless shown or specified otherwise. All trenches under paving, concrete, etc. shall be placed in Class B bedding only.
- F. Bedding for storm drain piping shall be as specified in Section 33 40 00 Storm Drainage Piping.
- G. Manholes: Excavate to a minimum of 12-inches below the planned elevation of the base of the manhole. Place and compact crushed stone bedding material to the required grade before constructing the manhole.
- H. Pressure Mains  
Bedding and haunching for pressure pipe shall be with Class II or III soils compacted to 90% of standard proctor density. All trenches under paving, concrete, etc. shall be placed in Class B bedding only.
- I. Excessive Width and Depth
  - 1. If the trench is excavated in excess of the pipe diameter plus two feet, provide the next higher bedding type.
  - 2. If the trench is excavated to excessive depth, provide foundation stone to the bottom of the bedding material.
- J. Compaction: Bedding and haunching materials under pipe, manholes and accessories shall be compacted to a minimum of 95 percent of the maximum dry

density, unless shown or specified otherwise.

### **3.08 CONCRETE ENCASUREMENT FOR PIPELINES**

Where concrete encasement is shown on the Drawings for pipelines not under structures, excavate the trench to provide a minimum of 6-inches clearance from the bell of the pipe. Lay the pipe to line and grade on concrete blocks. In lieu of bedding, haunching and initial backfill, place concrete to the full width of the trench and to a height of not less than 6-inches above the pipe bell. Do not backfill the trench for a period of at least 24 hours after concrete is placed.

### **3.09 CONCRETE ENCASUREMENT FOR ELECTRICAL DUCT BANKS**

- A. Install top of duct bank minimum 18-inches below finished grade with plastic warning tape 12-inches below finished grade.
- B. Terminate conduit in end bell at manhole entries.
- C. Stagger conduit joints in concrete encasement 6-inches minimum.
- D. Provide minimum 3-inch concrete cover at bottom, top, and sides of duct bank. Use suitable separators and chairs installed not greater than four feet on center to provide conduit spacing as indicated. Securely anchor conduit to prevent movement during concrete placement.
- E. Where duct bank passes beneath footings or slabs, excavate to provide a minimum of 6-inches clearance between the conduits and the structure. Backfill to the base of the structure with concrete.

### **3.10 INITIAL BACKFILL**

- A. Fill up to subgrade elevations unless otherwise indicated.
- B. Employ a placement method that does not disturb or damage other work.
- C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- D. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- F. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.
- G. Correct areas that are over-excavated.
  - 1. Thrust bearing surfaces: Fill with concrete.
  - 2. Other areas: Use general fill, flush to required elevation, compacted to

minimum 98 percent of standard proctor dry density.

- H. Compaction Density Unless Otherwise Specified or Indicated:
  - 1. Under paving, slabs-on-grade, and similar construction: 98 percent of standard proctor density.
  - 2. At other locations: 95 percent of standard proctor density.

### **3.11 FINAL BACKFILL**

- A. Backfill to contours and elevations indicated using suitable materials.
- B. Employ a placement method that does not disturb or damage other work.
- C. Systematically fill to allow maximum time for natural settlement. Do not fill over porous, wet, frozen or spongy subgrade surfaces.
- D. Maintain optimum moisture content of fill materials to attain required compaction density.
- E. Granular Fill: Place and compact materials in equal continuous layers not exceeding 6 inches compacted depth.
- F. Soil Fill: Place and compact material in equal continuous layers not exceeding 8 inches compacted depth.
- G. Slope grade away from building minimum 2 inches in 10 ft, unless noted otherwise. Make gradual grade changes. Blend slope into level areas.
- H. Compaction Density Unless Otherwise Specified or Indicated:
  - 1. Under paving, slabs-on-grade, and similar construction: 98 percent of standard proctor density.
  - 2. At other locations: 95 percent of standard proctor density.
- I. Reshape and re-compact fills subjected to vehicular traffic.

### **3.12 TOLERANCES**

- A. Top Surface of General Backfilling: Plus or minus 1 inch from required elevations.
- B. Top Surface of Backfilling Under Paved Areas: Plus or minus 1 inch from required elevations.

### **3.13 CLEAN-UP**

- A. Leave unused materials in a neat, compact stockpile.
- B. Remove unused stockpiled materials, leave area in a clean and neat condition. Grade stockpile area to prevent standing surface water.
- C. Leave borrow areas in a clean and neat condition. Grade to prevent standing

surface water.

**END OF SECTION**

## **PART 1 GENERAL**

### **1.01 SCOPE**

Work covered by this section consists of furnishing all plant, labor, equipment and materials, and performing all operations in connection with the construction of graded aggregated base and binder course as shown on the plans or as required for paved areas. Material and construction shall be in conformance with requirements of the Georgia Department of Transportation, Standard Specifications, Construction of Roads and Bridges, latest edition. (D.O.T.S.S.)

### **1.02 RELATED SECTIONS**

- A. Section 31 20 00 – Earth Moving.
- B. Section 32 12 00 - Flexible Paving.

## **PART 2 MATERIALS**

### **2.01 GRADED AGGREGATE:**

Shall meet the requirements of Article 815 of D.O.T.S.S.

### **2.02 BITUMINOUS PRIME**

- A. D.O.T.S.S., Section 412.
- B. Bituminous Prime shall be included in the unit price bid for Graded Aggregate Base Course.

## **PART 3 EXECUTION**

### **3.01 PREPARATION**

The area to be paved shall be graded and shaped, as required to construct the base in conformance with the grades, lines, thicknesses, and typical cross-section shown within the limits of construction. Prior to installing graded aggregate base, the subgrade shall be test rolled in accordance with D.O.T.S.S., Section 221. An Engineer shall be present to inspect

during the test rolling. Any subgrade displacing over 1/4" shall be corrected and made stable before construction proceeds. Construction of base will not begin until all subsurface utilities have been installed.

### **3.02 INSTALLATION**

Graded aggregate shall be installed in accordance with Section 310, D.O.T.S.S.

### **3.03 COMPACTION**

After shaping the spread material to line, grade, and cross-section, roll to uniformly compact the course. Use Group 2 aggregate and roll to at least 100 percent of the maximum dry density. Regardless of compaction, ensure that the compacted base is sufficiently stable to support construction equipment without pumping. If the base material is unstable from too much moisture, dry and rework the base material.

### **3.04 FINISHING**

After compaction, the surface of the base shall be shaped to the required lines, grades, and cross-section as shown on plans or as directed by the Engineer.

### **3.05 MAINTENANCE**

The Contractor shall be required, within the limits of his contract, to maintain the base course in good condition until all work has been completed and accepted. Maintenance shall include immediate repairs of any defects that may occur. This work shall be done by the Contractor at his own expense and repeated as often as may be necessary to keep the area continuously intact. Faulty work shall be replaced for the full depth of treatment. Any low areas shall be remedied by replacing the material for the full depth of treatment rather than by adding a thin layer to the completed work.

### **3.06 TOLERANCES**

The surface of the completed base shall not show any deviation in excess of 1/4" when tested with a 10' string line. The completed thickness of the base shall be within 1/2" of the thickness indicated.

### **3.07 WARRANTY**

The Contractor shall warrant the base to be serviceable for a minimum period of one year after the date of acceptance of the job.

**END OF SECTION**

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**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Aggregate base course.
- B. Single course bituminous concrete paving.
- C. Double course bituminous concrete paving.
- D. Surface sealer.

**1.02 RELATED SECTIONS**

- A. Section 33 05 13 - Manholes and Structures
- B. Section 32 11 00 – Base Courses

**1.03 SUBMITTALS**

- A. Material Certificates: Provide copies of materials certificates signed by material producer and Contractor, certifying that each material item complies with, or exceeds, specified requirements.
- B. Mix Design: Submit proposed mix design for each type of asphalt for review and acceptance prior to beginning work.

**1.04 REFERENCES**

- A. AI MS-2 - Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types; The Asphalt Institute; latest edition.
- B. AI MS-19 - A Basic Asphalt Emulsion Manual; The Asphalt Institute; latest edition.
- C. ASTM D 946 - Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction; 1982 (Reapproved 1999) or latest edition.
- D. Georgia Department of Transportation Standard Specifications Construction of Roads and Bridges; latest edition.

**1.05 SITE CONDITIONS**

- A. Weather Limitations:

1. Apply prime and tack coats when ambient temperature is above 50 deg. F (10 deg. C), and when temperature has not been below 35 deg. F (1 deg. C) for 12 hours immediately prior to application. Do not apply when base is wet or contains an excess of moisture.
  2. Construct asphalt concrete surface course when atmospheric temperature is above 40 deg. F (4 deg. C), and when base is dry. Base course may be placed when air temperature is above 30 deg. F (-1 deg. C) and rising.
- B. Grade Control: Establish and maintain required lines and elevations.

## **1.06 QUALITY ASSURANCE**

- A. Perform Work in accordance with Georgia Department of Transportation (GDOT) standard specifications, latest edition.
- B. Mixing Plant: Conform to GDOT standard specifications, latest edition.
- C. Obtain materials from same source throughout.

## **1.07 REGULATORY REQUIREMENTS**

Conform to applicable code for paving work on public property.

# **PART 2 PRODUCTS**

## **2.01 MATERIALS**

- A. Asphalt Cement: GDOT Section 400, ASTM D 946.
- B. Aggregate for Base Course: GDOT Standards. Section 802
- C. Aggregate for Binder Course: In accordance with GDOT standards. Section 802.
- D. Aggregate for Wearing Course: In accordance with GDOT standards. Section 802.
- E. Fine Aggregate: In accordance with GDOT standards. Section 802
- F. Mineral Filler: Finely ground particles of limestone, hydrated lime or other mineral dust, free of foreign matter.
- G. Primer: In accordance with GDOT standards, AASHTO M 82 (ASTM D 2027) MC-30, MC-70 or MC-250 .
- H. Tack Coat: Homogeneous, medium curing, liquid asphalt. Conforming to Section 413 of the Georgia Department of Transportation Standard Specification.

## **2.02 ASPHALT PAVING MIXES AND MIX DESIGN**

- A. Use dry material to avoid foaming. Mix uniformly.
- B. Base Course: 8" Graded Aggregate Base (GAB).
- C. Binder Course: 2.5" (220 lb/sy) 19 mm Superpave or as directed by the Norcross Project Manager.
- D. Wearing Course: 1.5" (220 lb/sy) 12.5 mm Superpave or as directed by the Norcross Project Manager.
- E. Submit proposed mix design of each class of mix for review prior to beginning of work.

### **2.03 SOURCE QUALITY CONTROL**

Test mix design and samples in accordance with AI MS-2.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that compacted subgrade is dry and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.

### **3.02 BASE COURSE**

- A. Place and compact base course and demonstrate satisfactory proof roll prior to proceeding with asphalt work.
- B. Section 32 11 00 - Base Courses forms the base construction for work of this section.

### **3.03 PREPARATION - PRIMER**

- A. Apply primer in accordance with manufacturer's instructions.
- B. Apply primer on aggregate base or subbase at uniform rate of 0.15 to 0.30 gal/sy.
- C. Apply primer to contact surfaces of curbs, gutters, and existing asphalt.
- D. Use clean sand to blot excess primer.

### **3.04 PREPARATION - TACK COAT**

- A. Apply tack coat in accordance with manufacturer's instructions.
- B. Apply tack coat on asphalt or concrete surfaces over subgrade surface at uniform rate of 0.05 to 0.10 gal/sy.

- C. Apply tack coat to contact surfaces of curbs, gutters and existing asphalt.
- D. Coat surfaces of manhole frames with oil to prevent bond with asphalt pavement. Do not tack coat these surfaces.

### **3.05 PLACING ASPHALT PAVEMENT**

- A. General: Place asphalt concrete mixture on prepared surface, spread and strike-off. Spread mixture at minimum temperature of 280 to 325 degrees F. Place inaccessible and small areas by hand. Place each course to required grade, cross-section, and compacted thickness. Place asphalt binder course approximately 72 hours after applying primer.
- B. Joints: Make joints between old and new pavements, or between successive days' work, to ensure continuous bond between adjoining work. Construct joints to have same texture, density and smoothness as other sections of asphalt concrete course. Clean contact surfaces and apply tack coat.
- C. Place binder course to 2 inch compacted thickness, or as shown on the plans.
- D. Place wearing course to 2 inches compacted thickness, or as shown on the plans.
- E. Install gutter drainage grates and frames in correct position and elevation.

### **3.06 ROLLING**

- A. Begin rolling when mixture will bear roller weight without excessive displacement.
- B. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
- C. Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.
- D. Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.
- E. Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.
- F. Remove and replace paving areas mixed with foreign materials and defective areas. Cut-out such areas and fill with fresh, hot asphalt concrete. Compact by rolling to maximum surface density and smoothness.
- G. After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

### **3.07 WHEEL STOPS**

Secure wheel stops to asphalt concrete surface with not less than two 3/4" diameter galvanized steel dowels embedded in precast concrete at 1/3 points. Size length of dowel to penetrate at least 6" into asphalt concrete. Drill placement holes oversize and embed dowels in hot bituminous grout material.

### **3.08 REMOVE AND REPLACE PAVEMENT**

Pavement and base course which must be removed for constructing sewers, manholes, force mains, water lines, and all other appurtenances in streets shall be replaced with the paving section shown on the drawings or match the existing pavement section. The pavement shall be removed to neat lines cut by a masonry saw. The top 18 inches of subgrade material immediately under the paving base and also road should shall be carefully removed and kept separate from the rest of the excavated material. This material shall be placed in the top 18 inches of the backfill. Further compaction shall be accomplished by leaving the backfilled trench open to traffic while maintaining the surface with crushed stone or gravel. Settlement in trenches shall be refilled with crushed stone or gravel, and such maintenance shall continue until replacement of pavement.

### **3.09 TOLERANCES**

- A. Flatness: Maximum variation of 1/4 inch (6 mm) measured with 10-foot (3 m) straight edge.
- B. Compacted Thickness: Within 1/4 inch (6 mm) of specified or indicated thickness.
- C. Variation from True Elevation: Within 1/2 inch (12 mm).

### **3.10 FIELD QUALITY CONTROL**

- A. See Section 01 45 29 – Testing Laboratory Services.
- B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549. In-place compacted thickness will not be acceptable if exceeding following allowable variation from required thickness:
  - 1. Base Course: 1/2", plus or minus.
  - 2. Surface Course: 1/4", plus or minus.
  - 3. Surface Smoothness: Test finished surface of each asphalt concrete course for smoothness, using 10' straightedge applied parallel with, and at right angles to centerline of paved area. Surfaces will not be acceptable if exceeding the following tolerances for smoothness.
  - 4. Base Course Surface: 1/2".

5. Wearing Course Surface: 1/4".
  6. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template, 1/4".
  7. Check surface areas at intervals as directed by Norcross Project Manager.
- C. Provide field inspection and testing. Take samples and perform tests in accordance with AI MS-2. The density shall be at least 98% (ninety-eight percent) of the laboratory determined density.
- D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to [ASTM D 979] [or] [AASHTO T 168].
1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
  2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726. One core sample will be taken for every 1000 sq. yd. (836 sq. m) or less of installed pavement, with no fewer than 4 cores taken or as directed by the Norcross Project Manager.
  3. Or a field density of in-place compacted pavement may be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.

### **3.11 PROTECTION**

Immediately after placement, protect pavement from mechanical injury for 1 days or until surface temperature is less than 140 degrees F (60 degrees C).

**END OF SECTION**

## **PART 1 GENERAL**

### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

### **1.2 SUMMARY**

- A. This Section includes exterior cement concrete pavement for the following:
  - 1. Curbs and Gutters.
  - 2. Walkways.
  - 3. Residential Driveways
  - 4. Parking Lots
- B. Related Sections include the following:
  - 1. Division 31 Section "Earth Moving" for subgrade preparation, grading, and subbase course.
  - 2. Division 32 Section "Concrete Paving Joint Sealants" for joint sealants of joints in concrete pavement and at isolation joints of concrete pavement with adjacent construction.

### **1.3 DEFINITIONS**

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

### **1.4 SUBMITTALS**

- A. Product Data: For each type of manufactured material and product indicated.
- B. Design Mixtures: For each concrete pavement mixture. Include alternate mixture designs when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements:

1. Cementitious materials.
2. Steel reinforcement and reinforcement accessories.
3. Fiber reinforcement.
4. Admixtures.
5. Curing compounds.
6. Bonding agent or epoxy adhesive.
7. Joint fillers.

## **1.5 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.
  1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- B. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.

## **1.6 PROJECT CONDITIONS**

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

# **PART 2 - PRODUCTS**

## **2.1 MANUFACTURERS**

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
  2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

## 2.2 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.
  - 1. Use flexible or curved forms for curves with a radius 100 feet (30.5 m) or less.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

## 2.3 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420); deformed.
- C. Joint Dowel Bars: Plain steel bars, ASTM A 615/A 615M, Grade 60 (Grade 420). Cut bars true to length with ends square and free of burrs.
- D. Tie Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- E. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete, and as follows:
- F. Epoxy Repair Coating: Liquid two-part epoxy repair coating, compatible with epoxy coating on reinforcement.

## 2.4 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source throughout the Project:
  - 1. Portland Cement: ASTM C 150, Type I/II, gray.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4S 4M or 1N coarse aggregate, uniformly graded. Provide aggregates from a single source.
  - 1. Maximum Coarse-Aggregate Size: 3/4 inch (19 mm) nominal.
  - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Exposed Aggregate: Selected, hard, and durable; washed; free of materials with deleterious reactivity to cement or that cause staining; from a single source, with gap-graded coarse aggregate as follows:
  - 1. Aggregate Sizes: 3/4 to 1 inch (19 to 25 mm) nominal.

- D. Water: ASTM C 94/C 94M.
- E. Air-Entraining Admixture: ASTM C 260.
- F. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.
  - 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
  - 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
  - 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
  - 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
  - 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
  - 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

## **2.5 FIBER REINFORCEMENT**

- A. Synthetic Fiber: Monofilament or fibrillated polypropylene fibers engineered and designed for use in concrete pavement, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches (13 to 38 mm) long.

## **2.6 CURING MATERIALS**

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- E. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- F. White Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B.

## **2.7 RELATED MATERIALS**

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.

- B. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery with emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.
- C. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to requirements, and as follows:
  - 1. Types I and II, non-load bearing or IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- E. Pigmented Mineral Dry-Shake Hardener: Factory-packaged dry combination of portland cement, graded quartz aggregate, color pigments, and plasticizing admixture. Use color pigments that are finely ground, nonfading mineral oxides interground with cement.

## **2.8 PAVEMENT MARKINGS**

- A. Pavement-Marking Paint: Latex, waterborne emulsion, lead and chromate free, ready mixed, complying with FS TT-P-1952, with drying time of less than 45 minutes.
  - 1. Color: White (parking striping, edging), Yellow (fire lane, traffic separation), Blue (handicapped) and As indicated.

## **2.9 WHEEL STOPS**

- A. Wheel Stops: Precast, air-entrained concrete, 2500-psi (17.2-MPa minimum compressive strength, 4-1/2 inches (115 mm) high by 9 inches (225 mm) wide by 72 inches (1820 mm) long. Provide chamfered corners and drainage slots on underside and holes for anchoring to substrate.
  - 1. Dowels: Galvanized steel, 3/4-inch (19-mm) diameter, 10-inch (254-mm) minimum length.

## **2.10 CONCRETE MIXTURES**

- A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.
  - 1. Use a qualified independent testing agency for preparing and reporting proposed concrete mixture designs for the trial batch method.

- B. Proportion mixtures to provide normal-weight concrete with the following properties:
  - 1. Compressive Strength (28 Days): 3000 psi (20.7 MPa).
  - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
  - 3. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm).
- C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:
  - 1. Air Content: 6 percent plus or minus 1.5 percent for 1-inch (25-mm) nominal maximum aggregate size.
- D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- E. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.
- F. Synthetic Fiber: Uniformly disperse in concrete mix at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd. (0.60 kg/cu. m).

## **2.11 CONCRETE MIXING**

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M[and ASTM C 1116. Furnish batch certificates for each batch discharged and used in the Work.
  - 1. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.
  - 1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph (5 km/h).
  - 2. Proof-roll with a loaded 10-wheel tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).

3. Subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch (13 mm) require correction according to requirements in Division 31 Section "Earth Moving."
- C. Proceed with concrete pavement operations only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.

### **3.2 PREPARATION**

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

### **3.3 EDGE FORMS AND SCREED CONSTRUCTION**

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

### **3.4 STEEL REINFORCEMENT**

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- E. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch (50-mm) overlap of adjacent mats.

### **3.5 JOINTS**

- A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.

1. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.
1. Continue steel reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
  2. Provide tie bars at sides of pavement strips where indicated.
  3. Butt Joints: Use bonding agent at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  4. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
1. Locate expansion joints at intervals of 40 feet (12.2 m), unless otherwise indicated.
  2. Extend joint fillers full width and depth of joint.
  3. Terminate joint filler not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished surface if joint sealant is indicated.
  4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
  5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
  6. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows[to match jointing of existing adjacent concrete pavement]:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch (6-mm) radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
  2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3-mm) wide joints into concrete when cutting action will not tear, abrade, or

otherwise damage surface and before developing random contraction cracks.

3. Doweled Contraction Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.
- E. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 1/4-inch (6-mm) radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

### **3.6 CONCRETE PLACEMENT**

- A. Inspection: Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast in. Notify other trades to permit installation of their work.
- B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to concrete during delivery or at Project site, unless instructed to by testing agency.
- F. Do not add water to fresh concrete after testing.
- G. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- H. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
  1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- I. Screed pavement surfaces with a straightedge and strike off.
- J. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- K. Curbs and Gutters: When automatic machine placement is used for curb and gutter placement, submit revised mix design and laboratory test results that meet

or exceed requirements. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing as specified for formed concrete. If results are not approved, remove and replace with formed concrete.

- L. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
  - 1. When air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
  - 2. Do not use frozen materials or materials containing ice or snow.
  - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mix designs.
- M. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
  - 1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  - 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
  - 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

### **3.7 FLOAT FINISHING**

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
  - 1. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.

### **3.8 SPECIAL FINISHES**

- A. Slip-Resistive Aggregate Finish: Before final floating, spread slip-resistive aggregate finish on pavement surface according to manufacturer's written instructions and as follows:
1. Uniformly spread 25 lb/100 sq. ft. (12 kg/10 sq. m) dampened slip-resistive aggregate over pavement surface in 2 applications. Tamp aggregate flush with surface using a steel trowel, but do not force below surface.
  2. Uniformly distribute approximately two-thirds of slip-resistive aggregate over pavement surface with mechanical spreader, allow to absorb moisture, and embed by power floating. Follow power floating with a second slip-resistive aggregate application, uniformly distributing remainder of material at right angles to first application to ensure uniform coverage, and embed by power floating.
  3. Cure concrete with curing compound recommended by slip-resistive aggregate manufacturer. Apply curing compound immediately after final finishing.
  4. After curing, lightly work surface with a steel wire brush or abrasive stone and water to expose nonslip aggregate.

### **3.9 CONCRETE PROTECTION AND CURING**

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
1. Moist Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.

2. **Moisture-Retaining-Cover Curing:** Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. **Curing Compound:** Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

### **3.10 PAVEMENT TOLERANCES**

- A. Comply with tolerances of ACI 117 and as follows:
  1. Elevation: 1/4 inch (6 mm).
  2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).
  3. Surface: Gap below 10-foot- (3-m-) long, unveled straightedge not to exceed 1/4 inch (6 mm).
  4. Lateral Alignment and Spacing of Tie Bars and Dowels: 1 inch (25 mm).
  5. Vertical Alignment of Tie Bars and Dowels: 1/4 inch (6 mm).
  6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 1/2 inch (13 mm).
  7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge: Length of dowel 1/4 inch per 12 inches (6 mm per 300 mm).
  8. Joint Spacing: 3 inches (75 mm).
  9. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
  10. Joint Width: Plus 1/8 inch (3 mm), no minus.

### **3.11 PAVEMENT MARKING**

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow concrete pavement to cure for 28 days and be dry before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).

1. Spread glass beads uniformly into wet pavement markings at a rate of 6 lb/gal. (0.72 kg/L).

### **3.12 WHEEL STOPS**

- A. Securely attach wheel stops into pavement with not less than two galvanized steel dowels embedded in holes drilled or cast into wheel stops at one-quarter to one-third points. Firmly bond each dowel to wheel stop and to pavement. Securely install dowels into pavement and bond to wheel stop. Recess head of dowel beneath top of wheel stop.

### **3.13 FIELD QUALITY CONTROL**

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
  1. Testing Frequency: Obtain at least 1 composite sample for each 50 cu. yd. (38 cu. m) or fraction thereof of each concrete mix placed each day.
  2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
  3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
  4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
  5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
  6. Compressive-Strength Tests: ASTM C 39/C 39M; test 1 specimen at 7 days and 2 specimens at 28 days.
    - a. A compressive-strength test shall be the average compressive strength from 2 specimens obtained from same composite sample and tested at 28 days.
- C. Strength of each concrete mix will be satisfactory if average of any 3 consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).

- D. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
- G. Remove and replace concrete pavement where test results indicate that it does not comply with specified requirements.
- H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

### **3.14 REPAIRS AND PROTECTION**

- A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.
- B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.
- C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

**END OF SECTION**

## **PART 1 GENERAL**

### **1.01 SCOPE**

This section pertains to seeding work, including preparing the seedbed, furnishing and placing of topsoil, seed and other required materials for a complete installation to the limits of construction and specified herein. Seeding operations shall be performed on all newly graded earth areas not otherwise specified covered by structures, pavements and/or surfacings, riprap, sod, sprigging, walkways, and other items of a similar nature; on all cleared and/or grubbed areas which are to remain as finish grade surfaces and not to be excavated or embankments constructed thereon; on all existing off site and on site turfed earth surfaces which are disturbed by construction operations and which are to remain as finish grade surfaces; and at all other locations which may be designated on the drawings or specified herein. The contractor shall follow the GA DOT Standard Specifications Construction of Roads and Bridges Section 700, 882, 890 and 891 latest edition and/or pages 6-35 thru 6-60 of the Manual for Erosion and Sediment Control in Georgia (1975 and as amended in the latest edition).

### **1.02 RELATED WORK SPECIFIED ELSEWHERE**

- A. Sodding – Section 32 92 23 (If Indicated on the Drawings)

## **PART 2 PRODUCTS**

### **2.01 TOPSOIL**

Top soil shall consist of materials meeting the requirements of Section 31 14 14.

### **2.02 GRASS SEED**

All seeds shall be labeled in accordance with U.S.D.A. Rules and Regulations. Seeds shall be packaged in suitable containers in accordance with the Georgia Seed Laws, Rules and Regulations currently in effect. No seed shall be used which has become molded, wet or otherwise damaged. Seed shall be tested by the Georgia Department of Agriculture for the purity and germination within six months prior to the date of sowing.

1. Grass seed on level or slightly sloping ground shall consist of the following for the planting dates specified:

- |     |                           |              |
|-----|---------------------------|--------------|
| (a) | March 1 to June 30        |              |
|     | Common Bermuda (hulled)   | 10 lbs./acre |
|     | Tall Fescue               | 50 lbs./acre |
| (b) | August 1 to November 1    |              |
|     | Tall Fescue               | 50 lbs./acre |
|     | Common Bermuda (unhulled) | 10 lbs./acre |
| (c) | November 1 to March 1     |              |
|     | Common Bermuda (unhulled) | 10 lbs./acre |
2. Grass seed on slopes 2:1 or steeper and infrequently mowed areas unless otherwise indicated shall consist of the following for the planting dates specified:
- |     |                                 |              |
|-----|---------------------------------|--------------|
| (a) | March 1 to June 15              |              |
|     | Weeping Lovegrass               | 5 lbs./acre  |
|     | Sericea Lespedeza (scarified)   | 60 lbs./acre |
| (b) | August 1 to November 1          |              |
|     | Tall Fescue                     | 50 lbs./acre |
|     | Sericea Lespedeza (unscarified) | 75 lbs./acre |
| (c) | November 1 to March 1           |              |
|     | Common Bermuda (unhulled)       | 10 lbs./acre |
|     | Sericea Lespedeza (unscarified) | 75 lbs./acre |

When as directed by the Norcross Project Manager, an approved quick growing species of grass seed such as rye, Italian rye, millet or other cereal grass, shall be applied at a rate of 30 lbs./acre in conjunction with and in addition to the seed mixture specified above.

### 2.03 SPRIGS

Bermuda, common, healthy living stolons native to locality of project. Plant on day of removal from growing location. Plant sprigs from March 15 to July 15.

### 2.04 MULCH

- A. Dry Mulch: Dry mulch shall be straw or hay, consisting of oat, rye or wheat straw, or of pangola, peanut, coastal Bermuda or Bahia grass hay. Only undeteriorated mulch which can be readily cut into the soil shall be used. Application rate shall be 2 ½ tons per acre.
- B. Mulch for hydroseeding: This material shall consist of wood cellulose fiber applied at 500 lbs./acre with dye color equal to Weyerhaeuser Company, or Conway Corporation material used for "hydroseeding" and suitable for this purpose.

### 2.05 FERTILIZER

Fertilizer shall be of an accepted and approved commercial brand. Fertilizer shall be a ready mixed material containing the soil nutrients as specified and in a suitable form compatible with the equipment used to achieve uniform distribution of the fertilizer. The fertilizer mixture shall contain the following nutrients expressed in per cent of the total weight: 6% nitrogen, 12% available phosphoric acid, and 12% water soluble potash (6-12-12) analysis. Container tags shall have the name and address of the manufacturer, the brand name, net weight, and chemical composition of analysis. Fertilizer shall be applied at 1500 lbs./acre.

## **2.06 LIME**

Agricultural lime shall be within the specifications of the Georgia Department of Agriculture. Ground limestone is calcitic or dolomitic limestone ground so that 90 percent of the material shall pass a 10-mesh sieve, not less than 50 percent will pass through a 50-mesh sieve and at least 25% shall pass a 100-mesh sieve. Lime shall be applied as indicated by soil test, or the rate of 1 to 2 tons per acre.

## **2.07 WATER**

The water used in the grassing operations may be obtained from any approved spring, pond, lake, stream or municipal water system. The water shall be free of excess and harmful chemicals, acids, alkalies, or any substance which might be harmful to plant growth or obnoxious to traffic.

## **2.08 SOD**

Shall be healthy living, disease and weed free grass that has been freshly cut.

# **PART 3 EXECUTION**

## **3.01 HYDROSEEDING**

- A. The materials for grassing shall consist of a thoroughly mixed slurry of grass seed, fertilizer, lime and mulch as specified. The application rate for wood fiber mulch shall be approximately 500 lbs./acre. All materials shall be discharged within one hour after being combined in the hydroseeder.
- B. Each kind of leguminous seed shall be inoculated separately with the appropriate commercial culture according to instructions of the manufacturer of the material. All inoculated seed shall be protected from the sun and shall be planted the same day it is inoculated.
- C. Equipment for mixing and applying the slurry shall be especially designed for this purpose. It shall be capable of applying a uniform mixture over the entire area to be seeded. The slurry mixture shall be agitated during application to keep the ingredients

thoroughly mixed. A suitable metering device to determine the rate of application and assist in obtaining uniform coverage of the grassed areas shall be incorporated as part of the equipment.

- D. Ground preparation for hydroseeding shall be the same as for conventional seeding.
- E. Hydroseeding shall not be performed when windy weather prevents even distribution; when the prepared surface is crusted; or when the ground is frozen, wet or otherwise in a non-tillable condition.

### **3.02 CONVENTIONAL SEEDING**

#### **A. Grading and Shaping**

Grade and shape to finish contours and to allow practical use of equipment.

#### **B. Seedbed Preparation**

##### **1. Broadcast plantings:**

- a. Tillage as a minimum shall: adequately loosen the soil to a depth of 4 to 6 inches; alleviate compaction; incorporate lime and fertilizer; smooth and firm the soil; allow for the proper placement of seed, sprigs, or plants; and allow for the anchoring of straw or hay mulch if a disk is to be used.
- b. Tillage may be done with any suitable equipment.
- c. Tillage may be done on the contour where feasible.
- d. On slopes too steep for the safe operation of tillage equipment, the soil surface will be pitted or trenched across the slope with appropriate hand tools to provide a place 6 to 8 inches apart in which seed may lodge and germinate.

##### **2. Individual plants:**

- a. Where individual plants are to be set, the soil will be well prepared by excavating holes, opening furrows, or dibble planting.
- b. For nursery stock plants, holes shall be large enough to accommodate roots without crowding.

### **3.03 SPRIGS**

Separate or shred and broadcast over area prepared for planting at 40 cu. ft. per acre. Harrow into ground with disc turned straight.

### **3.04 LIME/FERTILIZER APPLICATION**

Lime and fertilizer will be applied uniformly during land preparation so that it will be mixed with the soil during seedbed preparation. On steep surfaces, scarify slope prior to broadcasting lime and fertilizer.

### 3.05 PLANTING

- A. Seeding will be done on a freshly prepared and firmed seedbed. For broadcast planting, use a cultipacker-seeder, drill, rotary seeder, other mechanical seeder, or hand seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with a cultipacker or other suitable equipment.
- B. No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent species.
- C. No-till seeding must be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth.

### 3.06 MULCHING

All seeded areas shall be mulched. Soil retention blankets, erosion control netting, and other manufactured materials may be required in addition to mulch on unstable soils and concentrated flow areas. Mulch shall be spread uniformly within 24 hours after seeding.

### 3.07 WATER, MAINTENANCE AND RESEEDING

- A. Contractor shall be responsible for maintaining the proper moisture content of the soil to insure adequate plant growth until a satisfactory stand of grass is obtained. Watering shall be performed to maintain an adequate water content in the soil.
- B. **The Contractor shall mow and maintain all seeded areas without additional payment until final acceptance of the work by the Owner, and any regrading, refertilizing, reliming, reseeding or remulching shall be done at his own expense.** Seeding work shall be repeated on defective areas until a satisfactory uniform stand of grass is accomplished. A satisfactory stand of grass is defined as grass that covers at least 98% of the total area with no bare spots larger than one square foot and bare spots shall be scattered such that bare areas do not comprise more than 1/100 of any given area. **Damage resulting from erosion, gulleys, washouts, or other causes shall be repaired by filling with topsoil, compacting, and repeating the seeding work at the Contractor's expense.**

### 3.08 SODDING

See Section 32 92 23 Sodding for additional sod requirements. Smooth grade the specified area to be planted. Apply amendments and fertilizer requirements as determined in soil test. Planting area shall be free of stumps, roots, large stone over 1" diameter, and any other

debris. Apply fertilizer and rake into the soil surface. Lightly wet soil surface if dry. Lay the sod at right angles to any major water flow. Sod shall be pinned and secured on slopes greater than 3:1. Sod joints shall be staggered between rows. Sod shall be watered after installation each day.

**END OF SECTION**

## **PART 1 GENERAL**

### **1.01 SCOPE**

Sodding shall consist of establishing disturbed areas with sod (designated on the plans or by the Norcross Project Manager). Sodding is to be used on golf course fairways, tee boxes and rough areas.

## **PART 2 PRODUCTS**

### **2.01 SOD**

Sod shall consist of a live, dense, well-rooted growth of Tiff 419 Bermuda or other specified species. The sod shall be free from Johnson grass, nut grass and other noxious grasses and weeds and shall be of suitable character for the purpose intended and for the soil in which it is to be planted. It shall be uninjured at the time of planting.

### **2.02 FERTILIZER**

- A. Fertilizer (10-10-10) used in connection with sodding, shall contain 10 percent nitrogen, 10 percent phosphoric acid and 10 percent potash. The fertilizer shall be furnished in standard containers with the name, weight and guaranteed analysis of the contents clearly marked. The containers shall ensure proper protection in handling and transporting the fertilizer. All commercial fertilizer shall comply with local, state and federal fertilizer laws.
- B. Ammonium nitrate shall be a standard commercial product, shall conform to the requirements for other commercial fertilizers as specified above, and shall have a minimum of 32-1/2 percent nitrogen.

### **2.03 LIME**

Agricultural lime shall be within the specifications of the Georgia Department of Agriculture. Ground limestone is calcitic or dolomitic limestone ground so that 90 percent of the material shall pass a 10-mesh sieve, not less than 50 percent will pass through a 50-mesh sieve and at least 25% shall pass a 100-mesh sieve. Lime shall be applied as indicated by soil test, or the rate of 1 to 2 tons per acre. Lime shall not be applied to soils to receive Centipede or St Augustine sod.

## **2.04 WEATHER LIMITATIONS**

Sod shall be planted only when the soil is moist and favorable to growth.

## **PART 3 EXECUTION**

### **3.01 SODDING**

- A. The area to be sodded shall be constructed to the limits of disturbed areas, as shown on the plans, or as directed by the Norcross Project Manager, and the surface loosened to a depth of not less than 4-inches with a rake or other device. If necessary, it shall be sprinkled until saturated at least 1-inch in depth and kept moist until the sod is placed thereon. Immediately before placing the sod, the fertilizer shall be uniformly applied at the rate of 40 pounds of Grade 10-10-10, or equivalent, per 1,000 square feet. Agricultural limestone shall be applied based on soil tests or at a rate of 10 to 20 pounds per 1,000 square feet. Fertilizer, lime or other soil amendments shall be worked into the top 4 inches of soil.
- B. The entire area shall be thoroughly covered with sod. The sod shall be placed on the prepared surface with the edges in close contact and, as far as possible, with staggered joints. If any gaps are present after placement, the contractor shall fill these areas with sand at no additional cost to the owner.
- C. The sod shall be maintained moist from time of removal until reset but shall be placed as soon as practicable after removal from place where growing. Immediately after placing it shall be rolled with a lightweight roller or hand tamped to the satisfaction of the Norcross Project Manager.
- D. Sod on slopes steeper than 3 to 1 shall be held in place by sod staples, driven through the sod into the soil until they are below the top of the sod.

### **3.02 WATERING AND MAINTENANCE**

- A. The sod shall be watered as directed by the Norcross Project Manager for a period of two weeks after which ammonium nitrate shall be applied at the rate of three pounds per 1,000 square feet and the sod given a final watering.
- B. The Contractor shall not allow any equipment or material to be placed on any planted area and shall erect suitable barricades and guards to prevent Contractor's equipment, labor or the public from traveling on or over any area planted with sod.
- C. It shall be the obligation of the Contractor to secure a satisfactory growth of grass before final acceptance of the Project.
- D. The Contractor shall maintain all sodded areas without additional payment until final acceptance of the work by the Owner, and any regrading, refertilizing, reliming, resodding or remulching shall be done at his own expense. Sodding work shall be repeated on defective areas until a satisfactory uniform stand of sod

is accomplished. Damage resulting from erosion, gulleys, washouts, or other causes shall be repaired by filling with topsoil, compacting, and repeating the sodding work at the Contractor's expense.

**END OF SECTION**

## PART 1 GENERAL

### 1.01 SCOPE

This Section includes furnishing all equipment, materials and labor necessary for soil preparation, planting of shrubs, ground cover or vines as applicable, protection, maintenance, warranty and replacement of plants and all related items as shown on the Drawings and specified herein.

### 1.02 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with a ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container.
- D. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than the minimum root spread according to ANSI Z60.1 for type and size of plant required.
- E. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- F. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of plant.
- G. Finish Grade: Elevation of finished surface of planting soil.
- H. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides

- I. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (beavers, deer, moles, and mice), unwanted/invasive plants, fungi, bacteria, and viruses.
- J. Planting Area: Areas to be planted.
- K. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and fertilizers as needed to produce a soil mixture best for plant growth.
- L. Plant; Plants; Plant Material: These terms refer to vegetation in general, including shrubs, vines, native ground covers, bulbs, corms, tubers, seeds, nursery crop plants, or herbaceous vegetation.
- M. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- N. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

### **1.03 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
  - 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
  - 2. Plant Photographs: Include color photographs in digital format of each required species and size of plant material as it will be furnished to Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. For species where more than 20 plants are required, include a minimum of three photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full scientific name of the plant, plant size, and name of the growing nursery.

### **1.04 INFORMATIONAL SUBMITTALS**

- A. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
  - 1. Manufacturer's certified analysis of standard products.
- B. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

## **1.05 SUBSURFACE INVESTIGATION**

Before commencing any work required by this Section, the Contractor shall ascertain the location of all utilities, subsurface drainage and underground construction so that proper precautions may be taken not to disturb or damage any subsurface improvements. The Contractor will be held responsible for making, at Contractor's expense, all repairs to damaged utilities, irrigation piping, irrigation control lines, and structures resulting from the work.

## **1.06 OBSTRUCTIONS BELOW GROUND OR OVERHEAD**

It is not contemplated that planting shall occur where the depth of soil over underground construction or obstructions is insufficient to accommodate the roots or where impervious soil will require drainage. Where such conditions are encountered in excavation of planting areas, other locations for underground construction or for the planting may be designated by the Project Manager.

Removal of underground obstructions, relocation of construction and provision of drainage for planting areas shall be done only as directed by the Project Manager.

If changes in the location of the work or if removal of obstructions involve additional work, the Contractor shall proceed in accordance with the General Conditions of the Contract Documents.

## **1.07 QUALITY ASSURANCE**

- A. **Installer Qualifications:** A qualified landscape installer whose work has resulted in successful establishment of plants.
  - 1. **Professional Membership:** Installer shall be a member in good standing of either the Professional Landcare Network, the American Nursery and Landscape Association, or other approved demonstration of good standing within landscape community, as approved by Project Manager.
  - 2. **Experience:** Five years' experience in landscape installation.
  - 3. **Pesticide Applicator:** State licensed, commercial. All planting shall be performed by personnel familiar with planting procedure and under the supervision of a qualified planting foreman.
- B. **Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.**
- C. **Measurements:** Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
  - 1. **Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of shrub for height and spread; do not measure branches or roots tip to tip.**

- D. Plant Material Observation: Project Manager may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Project Manager may also observe shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected shrubs immediately from Project site.
1. Notify Project Manager of sources of planting materials seven days in advance of delivery to site.

## **1.08 EXISTING IMPROVEMENTS**

The Contractor shall take all necessary precautions to avoid damage to existing sidewalks, fencing, paving, curbs, lighting, cart paths and other site improvements.

## **1.09 QUALITY ASSURANCE**

Size quality, root ball preparation and grading standards shall conform to the American Association of Nurserymen, Inc., as published in the "American Standard for Nursery Stock" ANSI Z60.1, latest approved revision.

The Contractor shall be responsible for all certificates of inspection of plant materials that may be required by federal, state or other authorities to accompany shipments of plants. All plants must be inspected and approved by the Project Manager before they are planted. Inspection and approval of plants upon delivery shall be for quality, size and variety only and shall not in any way impair the right of rejection for failure to meet other requirements during progress of the Work.

Fertilizer shall conform to the local, state and federal laws applicable to its manufacture and labeling.

## **1.10 WARRANTY**

- A. Warranty: Plant shall be alive, healthy and vigorous at the end of the one-year warranty period.
- B. Replacement: The Contractor shall inspect all planting monthly until the end of the maintenance period, and shall submit to the Project Manager a written report describing plant replacements, if any. Any plant required under this Contract that is dead or not in satisfactory growth will be removed from the site; these and any plants missing due to the Contractor's negligence shall be replaced as soon as conditions permit. In case of any question regarding the condition and satisfactory establishment of a rejected plant, the Contractor shall notify the Project Manager immediately in writing, and the Project Manager shall determine acceptability. All replacement plants shall be warranted for the duration of one full year.

- C. Failures include, but are not limited to, the following:
  - 1. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
  - 2. Structural failures including plantings falling or blowing over.
  - 3. Damage from pest
- D. Include the following remedial actions as a minimum:
  - 1. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
  - 2. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
  - 3. A limit of one replacement of each plant is required except for losses or replacements due to failure to comply with requirements.
  - 4. Provide extended warranty for period equal to original warranty period, for replaced plant material.

#### **1.11 DELIVERY, STORAGE, AND HANDLING**

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws if applicable.
- B. Bulk Materials:
  - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants, unless otherwise approved by owner.
  - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  - 3. Accompany each delivery of bulk materials with appropriate certificates.
- C. Deliver bare-root stock plants within 36 hours of digging. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting. Transport in covered, temperature-controlled vehicles, and keep plants cool and protected from sun and wind at all times.
- D. Do not prune shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- E. Handle planting stock by root ball.

- F. Apply antidesiccant to shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
  - 1. If deciduous shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.
- G. Wrap shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.
- H. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
  - 1. Heel-in bare-root stock. Soak roots that are in less than moist condition in water for two hours. Reject plants with dry roots.
  - 2. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
  - 3. Do not remove container-grown stock from containers before time of planting.
  - 4. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.

## **1.12 FIELD CONDITIONS**

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

## **PART 2 PRODUCTS**

### **2.01 TOPSOIL**

The Contractor shall furnish, at no additional cost to the Owner, all necessary topsoil, that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth, for the planting of shrubs, vines, and/or ground covers. All topsoil shall be natural soil classifiable as a loam, silt loam or sandy loam as described in the U.S. Department of Agriculture triangular soil texture chart. The acidity range, between 6.0 and 6.5 pH, shall contain not less than three percent organic matter as determined by loss on ignition of moisture-free samples dried at 100 degrees C. Topsoil shall be free

from hard clods, stiff clay, hardpan, stones larger than 1-inch in diameter, noxious weeds and plants, sod, partially disintegrated debris, insects or any other undesirable material that would be toxic or harmful to growth. Topsoil for planting may be conditioned by the use of approved additives until the requirements outlined in the paragraph are satisfied.

## **2.02 PEAT**

Peat shall be commercial Sphagnum peat moss containing not more than 15 percent moisture and not less than 60 percent decomposed organic matter by weight calculated on an oven-dried basis. It shall be clean, free from stones, sticks, roots and other foreign matter and shall be shredded. It shall be delivered to site in unopened, partially compressed bales or bags.

## **2.03 SAND**

Sand for planting mix shall be clean, natural sand meeting the requirements of ASTM C 144. Sand may be prepared from stone, gravel or other inert material having similar characteristics subject to approval by the Project Manager.

## **2.04 MANURE**

Manure shall be commercially composted horse or cow manure subject to approval by the Project Manager.

## **2.05 LIMESTONE**

Limestone, if necessary as a soil additive shall be ground agricultural dolomitic limestone containing no less than 85 percent of total carbonates and shall be ground to such fineness that 50 percent will pass through a 100-mesh sieve and 90 percent through a 20 percent sieve.

## **2.06 PLANTING SOIL MIX**

- A. All planting pits shall be backfilled with a planting mix consisting of the following proportions by volume:
  - 1. One part native soil.
  - 2. One part peat.
  - 3. One part sand.
- B. The planting mix shall be thoroughly mixed prior to final placement. If so directed by the Project Manager, ground limestone shall be added to the mix at a rate of 2-1/2 pounds per cubic yard for each full point rise in pH desired.

## 2.07 PLANTS

- A. All plants removed, disturbed or damaged shall be replaced in kind, quantity and size.
- B. Plants shall be nursery grown and have a habit of growth that is normal for the species. They shall be sound, healthy, vigorous and free from insect pests, plant diseases and injuries. All plants shall true be true to genus, species, variety, cultivar, stem form, shearing, and other features and equal or exceed the measurements specified in the Plant List, which are minimum acceptable sizes. They shall be measured before pruning with branches in normal position. No pruning shall be done until the plants have been inspected by the Project Manager and in no case shall the plants supplied under this Contract be pruned back to such an extent that they no longer meet Specifications. Plants shall not be provided that are root bound. Plants shall comply with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Live plants shall be from nurseries within 150 miles of the site (unless otherwise approved). Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
- C. Substitutions of genus, species or variety will be permitted only upon submission of proof, in writing, that the specified plant or its alternative is not obtainable in the continental United States. Written authorization for substitution must be obtained from the Project Manager.
- D. Under special conditions plants may be field collected if approved in writing by the Project Manager.
- E. All plants (except ground-covers) in the Plant List shall be balled and burlapped stock, balled and potted stock, bare-root stock, container grown stock, or fabric bag grown stock, unless noted otherwise.
- F. **STREAMSIDE ZONE SHRUBS (4' centers)** Various areas throughout project. This zone is located in areas that have transitional hydrology and soils. The plants chosen for this zone are typically found in areas on the margins of wetlands and can handle periods of inundation interspersed with drier conditions.
  - Winterberry, *Ilex verticillata*
  - Yaupon, *Ilex vomitoria*
  - Swamp haw, *Viburnum nudum*
  - Strawberry Bush, *Euonymus americanus*
  - Virginia Sweetspire, *Itea virginica*
  - Permanent and Temporary Seeding (Groundcover)
- G. Plant species substitutions will be acceptable if approved by the Project Manager.
- H. Shrub sizes will be either bare root as 2 ft. min. height and 3/8 in. min. caliper or balled/burlapped (or potted, container grown, or fabric bag –grown) as 3 ft. min. height and 3/8 in. min. caliper).

- I. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Project Manager, with a proportionate increase in size of roots or balls.
- J. Root-Ball Depth: Furnish shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- K. Labeling: Label at least one plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant.
- L. If formal arrangements or consecutive order of plants is indicated on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.

## **2.08 MISCELLANEOUS MATERIALS**

- A. Water shall be suitable for irrigation and free from ingredients harmful to plant life. Hose and other watering equipment required for the work shall be furnished by the Contractor.
- B. Mulch, if applicable, shall be pure grade pulverized pine bark or pine straw.
- C. Fertilizer Planting Tablets: Tightly compressed chip-type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
- D. PESTICIDES: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- E. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.
- F. Burlap: Non-synthetic, biodegradable.
- G. Planter Filter Fabric: Nonwoven geotextile manufactured for separation applications and made of polypropylene, polyolefin, or polyester fibers or combination of them.

## **PART 3 EXECUTION**

### **3.01 TIME OF PLANTING**

- A. The Contractor shall be notified in writing by the Project Manager when other sections of the Work have progressed sufficiently to commence work of planting. Planting operations shall be conducted immediately under favorable weather conditions. These seasons shall be as follows:
  - 1. Planting Season: Plant all shrubs and ground covers between October 1 and April 1.
  - 2. At the option and the full responsibility of the Contractor, planting operations may be conducted under unseasonable conditions without additional compensation.

### **3.02 PLANTING OF SHRUBS AND GROUND COVER**

- A. Except as otherwise specified, the Contractor's work shall conform to accepted horticultural practices as used in the trade.
- B. The Project Manager shall verify the staking of all plants with labeled stakes to be furnished for this purpose by the Contractor.
- C. Planting pits shall be dug and soil for planting ready before plants are delivered. Pits shall be excavated according to the dimensions indicated on the Drawings.
- D. Ground cover beds, if applicable, shall be prepared by thorough loosening of existing sub-grade and by placement of a minimum of 4-inches of approved topsoil to conform to the final grade.
- E. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements
- F. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.
- G. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- H. All plants shall be set on prepared soil to such depth that the finished grade level at the plant after settlement will be the same as that at which the plant has grown. They shall be planted upright and plumb. No burlap shall be pulled out from under balls. Platforms, wire and burlap for top and sides of the ball shall be removed. All broken or frayed roots shall be cut off cleanly. Topsoil or prepared soil shall be placed and compacted carefully to avoid injury to roots and to fill voids. When the hole is nearly filled, add water as necessary and allow it to soak

away. Fill the hole to finish grade. After the ground settles, additional soil shall be filled to the level of the finished grade.

- I. During the setting of plants, 20-10-5 slow release fertilizer tablets shall be positioned approximately halfway up the root system, evenly distributed around and adjacent to the root ball. The following shall apply:
  - 1. Small Ground Cover Plants: One 5-gram tablet per plant.
  - 2. Shrubs: Two 10-gram tablets for each one foot of height or spread.
- J. If applicable, staking and guying shall be performed. Supports shall be kept in place during entire warranty period.
- K. Unless shown otherwise on the Drawings, all plants shall be mulched with a 3-inch layer of pine straw within two days after planting. This mulch shall entirely cover the area of the planting pit, bed or saucer around each plant.
- L. If applicable, plant beds containing ericaceous plants shall be top dressed with ordinary powdered sulfur at the rate of three pints per 100 square feet of area.

### **3.03 PRUNING AND REPAIR**

Upon completion of the Work under the Contract, all new shrubs shall have pruned and any injuries repaired. The amount of pruning shall be limited to the minimum necessary to remove dead or injured twigs and branches and to compensate for the loss of roots as a result of transplanting operations. Pruning shall be done in such a manner as not to change the natural habit or shape of the plant. All cuts shall be made at the branch collar. Flush cutting of branches shall be grounds for rejecting. The Contractor shall remove the shrub from the site and substitute another of the same species and quality. Errors in pruning resulting in shrub replacement shall not entitle the Contractor to additional compensation. On all bruises or scars on the bark and cuts over 3/4-inch in diameter, the injured cambium shall be traced back to living tissue and removed; wounds shall be smoothed and shaped so as not to retain water. Wound paint shall not be used.

### **3.04 INSPECTION FOR ACCEPTANCE**

Upon completion of all planting and after written notification, inspection of the landscape work to determine partial completion of the contract work, exclusive of maintenance and replacement of plants, will be made by the Project Manager. Inspection of the work will be made again by the Project Manager at the end of the maintenance period.

### **3.05 CLEANING AND PROTECTION**

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Protect plants from pest.

- C. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.
- D. Protect native plants from damage due to landscape operations and operations of other contractors and trades. Invasive species present within the construction limits need not be protected – in fact they should be physically or chemically removed as much as possible during the construction process. Maintain protection of native plants during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- E. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.
- F. At time of Substantial Completion, verify that watering devices are in good working order and leave them in place. Replace improperly functioning devices.

### **3.06 MAINTENANCE**

Maintenance shall begin immediately after each plant is planted and shall continue until all plants are accepted. Planting shall be protected and maintained at least one full year after job or planting completion, whichever is later.

- A. Maintain plantings by replanting, pruning, cultivating, watering, weeding, fertilizing, mulching, mowing, adjusting, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep shrubs free of insects and disease.
- B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests, invasive species and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.
- D. Replace unsuitably damaged or destroyed plants from pests.

**END OF SECTION**

## **PART 1 GENERAL**

### **1.01 DESCRIPTION**

- A. The work required under this section consists of all materials, accessories, equipment, tools, and labor required to construct and/or place precast concrete manholes, where shown on the drawings.
- B. Manholes shall be constructed of specified materials to the sizes, shapes and dimensions, and at the locations shown on the plans or as otherwise directed by the Norcross Project Manager. Generally, the height of manholes shall be such that the top of the manhole frame will be at the finished grade of the pavement or ground surface for manholes located in pavement, in road or street rights-of-ways or in maintained grounds. In areas other than above, the top of the manhole shall be 24 to 30 inches above the finish ground level.

### **1.02 REFERENCES**

- A. ASTM A 48 - Standard Specification for Gray Iron Castings.
- B. ASTM C 55 - Standard Specification for Concrete Brick.
- C. ASTM C 62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale).
- D. ASTM C 144 - Standard Specification for Aggregate for Masonry.
- E. ASTM C 270 – Standard Specification for Mortar for Unit Masonry.
- F. ASTM C 478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.
- G. ASTM C 923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals.
- H. IMIAWC (CW) - Recommended Practices & Guide Specifications for Cold Weather Masonry Construction; International Masonry Industry All-Weather Council.
- I. ASTM C 1244 - Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test.

### **1.03 SUBMITTALS**

- A. See Section 01 33 00 for submittal procedures.

- B. Shop Drawings: Indicate manhole locations, elevations, piping sizes and elevations of penetrations.
- C. Product Data: Provide manhole covers, component construction, features, configuration, and dimensions.

#### **1.04 QUALITY ASSURANCE**

Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

#### **1.05 ENVIRONMENTAL REQUIREMENTS**

- A. Maintain materials and surrounding air temperature to minimum 50 degrees F (10 degrees C) prior to, during, and 48 hours after completion of masonry work.
- B. Cold Weather Requirements: Comply with recommendations of IMIAWC (CW).

### **PART 2 PRODUCTS**

#### **2.01 MATERIALS**

- A. Manhole Sections: Reinforced precast concrete in accordance with ASTM C 478, with resilient connectors complying with ASTM C 923.
- B. Manhole Sections and Joints: Water tight joints for precast manhole sections, using rubber gaskets for sealing the joints shall be in accordance with ASTM C 443.
- C. Manhole Boots: Shall be NPC Kor-N-Seal connectors or approved equal.
- D. Integral Steps: Fiber reinforced plastic in accordance with ASTM D 3753.
- E. Concrete: As specified in Section 03 33 00.
- F. Concrete Reinforcement: As specified in Section 03 33 00.
- G. Brick: Shall conform to applicable requirements of ASTM C62 Grade NW.
- H. Mortar: Shall be a 3:1 sand-cement mix.

#### **2.02 COMPONENTS**

- A. Ring and Cover: ASTM A 48, Class 30B Cast iron construction, machined flat bearing surface, removable lockable cover (Bolted Watertight Cover) or removable non-lockable cover (non-bolted), closed cover design; sealing gasket; cover molded with identifying name provided by the owner. Use USF 367 for (Bolted Watertight Standard) Cover or approved equal. Or use U.S. Foundry (USF) 360-E Ring and Cover Series or approved equal for (non-bolted) covers.

See plans for frame and cover requirements.

- B. Manhole Steps: Polypropylene safety steps meet to ASTM A-615 and ASTM C-478, AASHTO M-199 and all OSHA specifications. The 1/2" grade 60 steel reinforcing bar meets ASTM A-615. Polypropylene rungs shall be 1 inch diameter or approved equal.
- C. Manhole Boots: Rubber boots shall be designed and manufactured to meet or exceed the requirements of ASTM C-923 "Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes and Laterals". The rubber seal shall be made from a resilient rubber compound, which conforms to ASTM C923. The pipe clamp shall be manufactured from 304 series non-magnetic stainless steel, which conforms to ASTM C923 and ASTM A167.

### **2.03 CONFIGURATION**

- A. Construction: Cylindrical base, vertical sections with eccentric cone top section with tongue and groove joints.
- B. Shape: Cylindrical unless otherwise noted on the plans.
- C. Clear Inside Dimensions: 48 inch diameter or as indicated on the plans.
- D. Design Depth: As indicated on the plans.
- E. Clear Cover Opening: Shall be 20-5/8" to 22-1/2".
- F. Pipe Entry: Provide openings as indicated on the plans.
- G. Steps: Set every 15 inches as indicated on the plans.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify items provided by other sections of work are properly sized and located.
- B. Verify that built-in items are in proper location, and ready for roughing into work.
- C. Verify excavation for manholes is correct.

### **3.02 MANHOLES**

- A. All manhole sections shall be manufactured in accordance to ASTM C-478.
- B. Place manhole sections plumb and level, trim to correct elevations.
- C. Form and place manhole cylinder plumb and level, to correct dimensions and elevations.
- D. All manholes base sections shall have preformed inverts cast per the plans or have a cast-in-place invert cast following installation of pipes within the structure.

- E. The manhole base shall be set on a 8 inch (minimum thickness) mat of No. 57 stone or as shown on the construction drawings.
- F. Set frames and covers to correct elevations and properly anchor to the masonry. Where manholes are constructed in paved areas, the top surface of the frame and cover shall be tilted to conform to the exact slope, crown and grade of the existing or proposed pavement.
- G. Installation for the step can be cast in place or driven into pre-formed or drilled hole. The step will resist pullout forces of over 1500 lbs.

### **3.03 MASONRY WORK**

- A. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- B. Lay masonry units in running bond. Course one unit and one mortar joint to equal 8 inches.
- C. Form concave mortar joints.
- D. Lay masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- E. Install joint reinforcement 16 inches on center.
- F. Place joint reinforcement in first and second horizontal joints above base pad and below cover frame opening.

**END OF SECTION**

## **PART 1 GENERAL**

### **1.01 SCOPE**

Furnish all labor, equipment, supplies, and materials and perform all operations in connection with construction of storm sewers as shown on the plans or specified. Construction shall be in accordance with the Georgia Department of Transportation Standard Specifications, Construction of Roads and Bridges, Latest Edition.

### **1.02 RELATED SECTIONS**

- A. Section 31 23 16 – Trench Excavation, and Backfill.
- B. Section 33 05 13 - Manholes and Structures.
- C. Section 03 31 00 - Cast-In-Place Concrete.
- D. Section 03 41 00 - Precast Concrete Structures.

### **1.03 REFERENCES**

- A. AASHTO M 36/ASTM A 760 - Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains; American Association of State Highway and Transportation Officials and Georgia Department of Transportation Standard Specifications, Section 844 latest Edition.
- B. AASHTO M 170 - Standard Specification for Reinforced Concrete Pipe and Georgia Department of Transportation Standard Specifications, Section 843 latest Edition.
- C. AASHTO M 190/ASTM A 849 - Standard Specification for Bituminous Coated Corrugated Steel Culvert Pipe and Georgia Department of Transportation Standard Specifications, Section 844 latest Edition.
- D. AASHTO M 294 - Corrugated Polyethylene Pipe (12" through 48") and Georgia Department of Transportation Standard Specifications, Section 845 latest Edition.
- E. ASTM C 14 - Standard Specification for Concrete Sewer, Storm Drain, and Culvert Pipe.
- F. ASTM C 76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
- G. ASTM C 443 - Standard Specification for Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gasket.

- H. ASTM F405 – Standard Specification for Corrugated Polyethylene Pipe and Fittings.
- I. ASTM F667 – Standard Specification for large diameter Corrugated Polyethylene Pipe and Fittings.
- J. ASTM 949 – Standard Specification for Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings.

#### **1.04 SUBMITTALS**

Complete product data and engineering data, including shop drawings, shall be submitted to the Norcross Project Manager in accordance with the requirements of Section 01 33 00 of the Contract Documents.

#### **1.05 TRANSPORTATION AND HANDLING**

- A. Unloading: Furnish equipment and facilities for unloading, handling, distributing and storing pipe, fittings and accessories. Make equipment available at all times for use in unloading. Do not drop or dump materials. Any materials dropped or dumped will be subject to rejection without additional justification. Pipe handled on skids shall not be rolled or skidded against the pipe on the ground.
- B. Handling: Handle pipe, fittings and accessories carefully to prevent shock or damage. Handle pipe by rolling on skids, forklift, or front end loader. Do not use material damaged in handling. Slings, hooks or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior coatings or internal lining of the pipe. Do not use chains in handling pipe, fittings and appurtenances.

#### **1.06 STORAGE AND PROTECTION**

- A. Store all pipe which cannot be distributed along the route. Make arrangements for the use of suitable storage areas.
- B. Stored materials shall be kept safe from damage.
- C. 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. Pipe in tiers shall be alternated: bell, plain end; bell, plain end. At least two rows of timbers shall be placed between tiers and chocks, affixed to each other in order to prevent movement. The timbers shall be large enough to prevent contact between the pipe in adjacent tiers.

## **PART 2 PRODUCTS**

### **2.01 PIPE MATERIALS**

- A. Reinforced Concrete Pipe (RCP): Shall conform to the requirements of AASHTO M 170, ASTM C 76, ASTM C 361; mesh reinforcement; bell and spigot end joints.
- B. Corrugated Aluminum Alloy Pipe (CAAP): Aluminum Alloy Pipe shall conform to the requirements of AASHTO M 196 / ASTM B 745. All pipe shall be 14 gauge unless otherwise noted on the plans.
- C. High Density Polyethylene Pipe (HDPE): Smooth interior, corrugated exterior HDPE storm sewer pipe meeting the requirements of AASHTO M 252, M 294 and MP7. The pipe shall be AASHTO Type 'S' (N-12) WT as manufactured by Advanced Drainage Systems, Inc. (ADS) for sizes 4" through 60" or approved equal.
- D. Poly(Vinyl Chloride) (PVC): Smooth interior, corrugated exterior PVC storm sewer pipe shall conform to the requirements of ASTM F949, F794 and AASHTO M304. The pipe shall be A-2000 PVC belled as manufactured by CONTECH Construction Products Inc. for sizes 4" through 36" or approved equal.
- E. All storm drainage pipe shall meet or exceed the Georgia Department of Transportation Standard Specification, Section 550 unless otherwise noted on the plans or within this specification.

### **2.02 PIPE ACCESSORIES**

- A. Pipe Joints: Mechanical clamp ring type, stainless steel expanding and contracting sleeve, neoprene ribbed gasket for positive seal and Reinforced Concrete Pipe Joint Device: Shall conform to the requirements of AASHTO M 198 / ASTM C 361, ASTM C 443. "O"-ring type rubber gasketed concrete joints.
- B. Fittings: Same material as pipe molded or formed to suit pipe size and end design, in required tee, bends, elbows, cleanouts, reducers, traps and other configurations required.  

All fittings shall conform to manufacturers specifications.
- C. Filter Fabric: Non-biodegradable, woven.
- D. Coupling Bands: Aluminized steel, 0.052 inches thick x 10 inches wide; connected with two neoprene "O" ring gaskets and two galvanized steel bolts and shall conform to the requirements of AASHTO M 36.

### **2.03 CATCH BASINS, RAISED LID INLETS, DROP INLETS, & HOODED GRATE INLETS**

- A. Construction shall be in accordance with the Georgia Department of Transportation Standard Specifications, Section 668 latest Edition.
- B. Lids and Drain Covers: Shall be cast iron.
- C. Layout: as shown on drawings or, per Georgia Department of Transportation Standards and Details.
- D. Shaft Construction and Concentric Cone Top Section: Reinforced precast concrete pipe sections ASTM C478, lipped male/female dry joints, nominal diameter of 48 inches.
- E. Base Pad: Cast-in-place concrete of type specified in Section 03 33 00 or 32 13 13, leveled top surface to receive concrete shaft sections, sleeved to receive sewer pipe sections.
- F. See Section 33 05 13 Manholes and Covers for additional information on manhole steps, brick, mortar etc.

### **2.04 HEADWALLS AND END SECTIONS**

Construction shall be in accordance with the Georgia Department of Transportation Standards and Details.

### **2.05 BEDDING AND COVER MATERIALS**

Bedding and Cover: As specified in Section 31 23 16 - Trench Excavation and Backfill.

## **PART 3 EXECUTION**

### **3.01 EXISTING UNDERGROUND UTILITIES AND OBSTRUCTIONS**

- A. The plans indicate utilities and obstructions that are known to exist according to the best information available to the Owner.
- B. Existing Utility Location: The following steps shall be exercised to avoid interruption of existing utility service.
  - 1. Expose the facility, for a distance of at least 100 feet in advance of pipeline construction, to verify its true location and grade. Repair, or have repaired, any damage to utilities resulting from locating or exposing their true location.
  - 2. Avoid utility damage and interruption by protection with means or methods recommended by the utility owner.
- C. Conflict with Existing Utilities

1. Horizontal Conflict: Horizontal conflict shall be defined as when the actual horizontal separation between a utility, main, or service and the proposed piping does not permit safe installation of the piping by the use of sheeting, shoring, tying-back, supporting, or temporarily suspending service of the parallel or crossing facility. The Contractor may change the proposed alignment of the piping to avoid horizontal conflicts if the new alignment complies with regulatory agency requirements and after a written request to and subsequent approval by the Norcross Project Manager. Where such relocation of the piping is denied by the Norcross Project Manager, the Contractor shall arrange to have the utility, main, or service relocated.
  2. Vertical Conflict: Vertical conflict shall be defined as when the actual vertical separation between a utility, main, or service and the proposed piping does not permit the crossing without immediate or potential future damage to the utility, main, service, or the piping. The Contractor may change the proposed grade of the piping to avoid vertical conflicts if the changed grade maintains adequate cover and complies with regulatory agencies requirements after written request to and subsequent approval by the Norcross Project Manager.
- D. Electronic Locator: Have available at all times an electronic pipe locator and a magnetic locator, in good working order, to aid in locating existing pipe lines or other obstructions.
- E. Water and Storm Sewer Separation
1. Potable water mains should maintain a minimum 10 foot edge-to-edge separation from storm sewer lines.
  2. Where storm sewers cross the water main, the pipe joint adjacent to the pipe crossing the water main shall be cut to provide maximum separation of the pipe joints from the storm sewer.
  3. No water main shall pass through, or come in contact with, any part of a storm sewer manhole.

### **3.02 TRENCHING**

See Section 31 23 16 - Trench Excavation and Backfill for minimum requirements.

### **3.03 INSTALLATION - PIPE**

- A. Verify that trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on construction plans.
- B. Install pipe, fittings, and accessories in accordance with manufacturer's instructions. Seal watertight.
- C. Lay pipe to slope gradients noted on construction plans; with maximum variation from true slope of 1/8 inch in 10 feet.

- D. Reinforced Concrete Pipe shall be installed in accordance with applicable provisions of the American Concrete Pipe Association (ACPA). RCP shall be installed on a Class C bedding as specified in Section 31 23 16.
- E. Corrugated Aluminum Alloy Pipe (CAAP) shall be installed on a Class B bedding as specified in Section 31 23 16.
- F. High Density Polyethylene Pipe (HDPE) shall be installed on a Class B bedding as specified in Section 31 23 16.
- G. Poly(Vinyl Chloride) (PVC) PIPE shall be installed on a Class B bedding as specified in Section 31 23 16.

### **3.04 INSTALLATION - CATCH BASINS AND MANHOLES**

- A. Form bottom of excavation clean and smooth to correct elevation.
- B. Form and place cast-in-place concrete base pad, with provision for storm sewer pipe end sections.
- C. All structures shall be placed on an 8-inch subbase of No. 57 stone.
- D. Level top surface of base pad; sleeve concrete shaft sections to receive storm sewer pipe sections.
- E. Establish elevations and pipe inverts for inlets and outlets as indicated.
- F. Mount lid and frame level in grout, secured to top cone section to elevation indicated.

### **3.05 FIELD QUALITY CONTROL**

- A. Perform field inspection and testing as directed by the Norcross Project Manager.
- B. If tests indicate Work does not meet specified requirements, remove Work, replace and retest at no cost to owner.

### **3.06 PROTECTION**

Protect pipe and bedding cover from damage or displacement until backfilling operation is in progress.

**END OF SECTION**

## **PART 1 GENERAL**

### **1.01 SCOPE OF WORK**

- A. Contractor shall furnish all materials and labor for the installation and continuous maintenance of traffic control devices throughout the project.
- B. This item of work shall include furnishing, installing, maintaining, relocating and removing all traffic control devices used for the purpose of regulating, warning or directing traffic during the construction or maintenance of this project.
- C. Upon completion of work, warning devices are to be removed by the Contractor.

### **1.02 SAFETY**

- A. The governing factor in the execution and staging of work for this project is to provide the public with the safest possible travel conditions along the roadway through the construction zone. The Contractor shall arrange his operation to keep the closing of any lane of a roadway to an absolute minimum.
- B. No work shall be started on any phase of the project until all appropriate traffic control devices are in place and in operation.
- C. Contractor is to take all practical precautions to maintain traffic flow, and provide safety of workers and the general public.
- D. At the end of each workday, contractor is to clear the roadway of all dirt and debris and add additional safety devices to maintain safe travel lanes.
- E. When not in use, all traffic control devices shall be removed, placed or covered so as not to be visible to traffic.

### **1.03 REFERENCES**

- A. Manual for Uniform Traffic Control Devices (MUTCD) (latest edition).
- B. Georgia Department of Transportation (Ga. DOT) Standard Specifications for Construction of Roads and Bridges (latest edition), Section 150.
- C. Georgia Department of Transportation (Ga. DOT) Standard Construction Details (latest edition).

## **PART 2 PRODUCTS**

### **2.01 TRAFFIC CONTROL DEVICES**

- A. Traffic Control Devices include: signs and their supports, signals, pavement markings, barricades with sand bags, channelizing devices, warning lights, arrowboards, flaggers, or any other device used for the purpose of regulating, warning or guiding traffic through the construction zone.
- B. All Traffic Control Devices used on this project shall conform to the plans, Ga. DOT Construction Details and Specifications, and MUTCD.
- C. Traffic Control Devices shall be in proper, acceptable condition when in use. Devices which are unclear, damaged, or not correctly positioned shall be promptly restored to fully operational condition.

## **PART 3 EXECUTION**

### **3.01 PLAN AND PERMITS**

- A. Unless otherwise noted, Contractor is responsible for preparing his/her own traffic control plan and instituting the plan in compliance with all applicable Georgia DOT requirements.
- B. The Contractor shall be responsible for the proper location, installation, and arrangement of all traffic control devices. Special attention shall be given to advance warning signs during construction operations in order to keep lane assignment consistent with barricade placement at all times. The Contractor shall cover all Traffic Control Devices which are inconsistent with detour or lane assignment patterns during the transition from one construction stage to another.
- C. Construction signs referring to daytime lane closures during working hours shall be removed or covered during non-working hours.
- D. The Contractor shall ensure all Traffic Control Devices installed by him are operational 24 hours a day, including weekends and holidays. Provide additional inspections at regular intervals.
- E. When traveling in lanes open to public traffic, the contractor's vehicles shall always move with and not against or across the flow of traffic. These vehicles shall enter or leave work areas in a manner which will not be hazardous to, or interfere with, traffic and shall not park or stop except within designated work areas. Personal vehicles shall not park within the right of way except in specific areas designated on the plans. If an area is not designated on the plans, then the Contractor shall propose an area for parking and secure approval from the Norcross Project Manager.
- F. Private driveways and parking areas shall be accessible at all times unless temporary closings are necessary for construction work. The Contractor shall

notify the Norcross Project Manager and the affected individuals at least 24 hours in advance of the closure. Reasonable accommodations to the affected individuals shall be made by the Contractor to limit impacts on their property and operations.

- G. If trenches are to remain open overnight, or for an extended period of time, Contractor is to provide heavy duty cover plates to allow vehicles access.
- H. If Flaggers are required, they are to be adequately trained, qualified and certified by the Georgia DOT.

**END OF SECTION**



Legislation Details (With Text)

**File #:** 16-4420      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 6/10/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** Agreement with r360 to Provide Research, Marketing and Consulting Services

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** [1. Agreement with r360](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		

**Title**  
**Agreement with r360 to Provide Research, Marketing and Consulting Services**

**Drafter**  
**Rudolph Smith**

**Motion**  
**A motion to Approve/Deny the Attached Agreement for Research, Marketing and Consulting Services with r360.**



**AGREEMENT TO PROVIDE  
RESEARCH, MARKETING & CONSULTING SERVICES**

**THIS AGREEMENT** is entered into by and between r360, LLC, an Alabama limited liability company (hereinafter referred to as “Consultant”) and the **City of Norcross, GA** (hereinafter referred to as “Client”) on this the \_\_\_ day of July, 2016, as follows:

**WHEREAS**, the Client desires to have performed those services identified on Exhibit A attached hereto (the “Project”) for the **City of Norcross, Georgia** which it believes will promote the efficient operation of the Client; and,

**WHEREAS**, Consultant has made a proposal to the Client to provide research, marketing and consulting services related to the Project to the Client as further set forth below.

**W-I-T-N-E-S-S-E-T-H:**

**NOW, THEREFORE**, this agreement is made and entered into on the date first above written by and between the Client and Consultant, by which Consultant will provide research, marketing and professional consulting to the Client as hereinafter specified, through individuals possessing a high degree of professional skill where the personality of the individual will play a decisive role as follows:

**1. SCOPE OF SERVICES**

Consultant agrees, for the consideration stated herein, to provide research, marketing and professional consulting and related services to the Client for the Project as set out in Exhibit A.

## **2. TIME OF PERFORMANCE**

Consultant shall provide services pursuant to this agreement and expeditiously and in good faith conduct its work in such a manner as to complete its commitments for Client within one (1) calendar year which shall be calculated as **August 1, 2016 to August 31, 2017, subject to the termination and annual renewal provisions in Paragraph 12 below.**

Consultant shall commence, carry on and complete the Project with all practicable dispatch, in a sound, economical and efficient manner, in accordance with the provisions hereof and applicable laws. In accomplishing the Project, Consultant shall take such steps as are appropriate to insure that the work involved is properly coordinated with related work and policies being carried on by the Client.

## **3. COMPENSATION**

The Client agrees to pay Consultant for the services as set forth herein, the sum of **\$35,000** for the consulting fee for the initial term of July 1, 2016 through August 31, 2017. Full payment is to be made upon execution of this agreement and receipt of the invoice from r360, LLC. Client will remit payment to Consultant upon receipt of invoice but no later than thirty (30) days from receipt of invoice. This contract shall automatically review on September 1 of each subsequent year for a renewal term of 12 months, pursuant to the annual renewal provisions in Paragraph 12 below, for the sum of **\$30,000** for the first and second renewal terms, and **\$34,500** for the third and fourth renewal terms, as set forth in Exhibit "A," payable in the same manner as set forth above. Client acknowledges that affiliates of Consultant act in the capacity of a real estate advisory service business and may earn fees for services including brokerage, development, leasing and management fees in the performance of such affiliates services as part of the scope of the Project.

## **4. CLIENT RESPONSIBILITIES**

In addition to paying Consultant for services according to the preceding paragraph, the Client shall also provide for Consultant: access to relevant personnel, facilities, and materials including, but not necessarily limited to, those items specified in Consultant's proposal to Client, and such records, reports, and information as reasonably requested by Consultant and in Client's possession.

**5. LEVEL OF COMPETENCE**

Consultant represents and warrants to the Client that it and all of its employees that will be working on the project for the Client are qualified and competent to perform the services required. Such personnel shall not be employees of or have any pre-existing contractual relationship with the Client. All of the services required hereunder will be performed by Consultant or under its supervision.

The Project Director for the performance of services by Consultant pursuant to the terms and conditions of this agreement shall be Chuck Branch or other employees as deemed necessary by Consultant. The Client Manager for the performance of services will be Charles Branch. The Research and Marketing Coordinator is Amanda Beshears and is assisted by Jackie Bell. Consultant may also use additional employees to assist with the performance of this Agreement as Consultant deems appropriate in Consultant's discretion.

**6. MATERIALS/CONFIDENTIALITY**

The Client agrees to cooperate with and provide Consultant with access to facilities and information within its reasonable possession and control, requested by Consultant for its review and use in performing the services herein. Provided, however, all such documents, information, results, memoranda and all other written information ("information") shall be held confidential by Consultant and any of its sub-contractors and shall not, without the prior written consent of the Client, be used for any purpose other than the performance of this agreement nor be disclosed to any other entity not connected with performance of this agreement. Upon completion of services, Consultant shall return all such information to the Client. The Client shall retain ownership of all such information provided by Client.

**7. INTELLECTUAL PROPERTY**

The Client and Consultant, jointly and separately, acknowledge and agree that the intellectual property of both parties shall remain owned by the respective party. With the exception of Consultant's periodic and final reports generated for performance of this agreement to or for the Client, reports, memorandums, electronic mail, facsimile transmissions and other written and

prepared documents shall be owned by the party who authored, generated or who originally possessed the same and nothing in this agreement shall contravene said rights.

**8. INFORMATION AND REPORTS**

Consultant shall furnish an electronic version of a final written report and such periodic reports concerning the status of the project as may be requested by the Client's representative pursuant to the schedule to be provided by Consultant. Consultant shall furnish the Client, upon request, with electronic copies of all documents and other material prepared or developed in relation with or as part of the project. Such requests shall be reasonable and within normal business practices for such work.

**9. COPYRIGHT INFORMATION**

The Client acknowledges that all intellectual property developed during the course of this agreement by Consultant shall belong exclusively to Consultant. However, the Client may utilize any of the foregoing for and on behalf of its internal operations, but will take steps reasonably necessary with its employees with respect to the use, copying, protection and security of the foregoing.

**10. APPLICABLE LAWS**

Consultant shall register and comply with all State or Federal laws and/or regulations as they may relate to the services or activities of the Consultant to the Client.

**11. INSURANCE**

Consultant shall carry all appropriate and necessary insurance to be in compliance with state and national laws regarding the insurance coverage of its employees.

**12. TERM AND TERMINATION.** This Contract shall commence on August 1, 2016, after: (i) all Parties have executed this document ("Commencement Date"), and (ii) a copy of the executed document has been delivered to Consultant; and, in accordance with applicable provisions of Georgia law, the Initial Term expires absolutely and without further obligation on the part of Client at midnight on August 31 of the calendar year after this Contract was executed (the "initial termination date") or on August 31 of each subsequent calendar year subject to Client's

option to extend the term of this Contract for up to four (4) consecutive one-year renewal terms (each of such terms, a "Renewal Term," and collectively, "Renewal Terms"), unless otherwise provided in this Contract or sooner terminated as provided elsewhere in this Contract. On the initial termination date, and on each successive anniversary of that date, this Contract shall renew for one year unless terminated by either party upon written notice of termination to the other party by August 1 of that calendar year prior to the next date of renewal (each renewal term shall begin on September 1 of each calendar year). The "Termination Date" of this Contract shall be the date identified by the terminating party in that party's notice of termination to the other party.

Should Consultant violate any of the terms of this Contract or otherwise fail to fulfill its obligations set forth under Exhibit A of this Contract, Client shall immediately provide to Consultant written notice of any alleged deficiencies in performance and Consultant shall have thirty (30) days from the date notice is received to cure any alleged deficiencies in performance. In no way shall more than two (2) opportunities to cure be afforded to Consultant within a twelve month period. Should Consultant fail to remedy the alleged defect in performance after being given the opportunity to do so, Client shall have the right to terminate this Contract. In the event that the contract is terminated in mid-term for cause, as set forth above, Consultant shall refund the pro-rata share of the annual fee for the remaining portion of the term.

**13. CONFLICT OF INTEREST**

The Consultant represents and warrants to the Client, to the best of its knowledge, that neither it nor its Project Directors are aware of any conflict of interest which exists by means of its provision of services to the Client pursuant to the terms and conditions of this agreement.

**14. NOTICES/PARTIES REPRESENTATIVES**

The primary representative of the Client for this agreement shall be the City Manager for the City of Norcross, Georgia or his designee.

All notices, bills, and invoices required by this agreement shall be sufficient if sent by the parties hereto in the United States Mail, postage prepaid thereon to the addresses noted below:

Client: Rudolph Smith, City Manager, or his designee  
City of Norcross, Georgia  
City Hall  
65 Lawrenceville Street  
Norcross, GA 30071

Consultant: r360, LLC  
P.O. Box 531027  
Birmingham, AL 35253  
Attention: Chuck Branch

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**15. REPRESENTATIVE CAPACITY**

While Consultant's role will be that of consultant to the Client, Consultant shall be and remain an independent contractor and not act in the role of an agent or legal representative on behalf of the Client. Consultant shall not have the authority to bind or obligate the Client, its officers, agents or employees.

**16. MISCELLANEOUS**

**Capacity:** Each party to this agreement represents and warrants to the other as follows:

A. That it is an individual of the age of majority or otherwise a legal entity duly organized and in good standing pursuant to all applicable laws, rules and regulations.

B. That each has full power and capacity to enter into this agreement, to perform and to conclude the same including the capacity, to the extent applicable, to grant, convey and/or transfer; areas, assets, facilities, properties, (both real and personal), permits, consents and authorizations and/or the full power and right to acquire and accept the same.

C. That to the extent required, each party has obtained the necessary approval of its governing body, board, council or other appropriate governing body and a resolution or other binding act has been duly and properly enacted by such governing body or board authorizing this agreement and said approval has been reduced to writing and certified or attested by the appropriate official of the party.

D. That each party has duly authorized and empowered a representative to execute this agreement on their respective behalf and the execution of this agreement by such representative fully and completely binds the party to the terms and conditions hereof.

E. That absent fraud, the execution of this agreement by a representative of the party shall constitute a certification that all such authorizations for execution exist and have been performed and the other party shall be entitled to rely upon the same. To the extent a party is a partnership, limited liability company or joint venture, the execution of this

agreement by any member thereof shall bind the party and to the extent that the execution of agreement is limited to a manager, managing partner or specific member then the person so executing this agreement is duly authorized to act in such capacity for the party.

F. That each party represents and warrants to the other that, to the best of its knowledge, there is no litigation, claim or administrative action threatened or pending or other proceedings to its knowledge against it which would have an adverse impact upon this transaction or upon either's ability to conclude the transaction or perform pursuant to the terms and conditions of this agreement.

G. That each party has obtained any and all required permits, approvals and/or authorizations from third parties to enable it to fully perform pursuant to this agreement.

**Third Party Beneficiaries:** It is the intent of the parties hereto that there shall be no third party beneficiaries to this agreement.

**Final Integration:** This agreement, together with any exhibits or amendments hereto, constitutes the entire agreement of the parties, as a complete and final integration thereof with respect to its subject matter. In the event of a direct conflict between the provisions hereof and any prior agreement or amendment, the latter shall supersede the former. All written or oral understandings and agreements heretofore had between and among the parties are merged into this agreement, which alone fully and completely expresses their understandings. No representation, warranty, or covenant made by any party which is not contained in this agreement or expressly referred to herein have been relied on by any party in entering into this agreement.

**Force Majeure:** Neither party to this agreement shall hold the other party responsible for damages or delay in performance caused by acts of God, strikes, lockouts or other circumstances beyond the reasonable control of the other or the other party's employees, agents or contractors.

**Amendment in Writing:** This agreement may not be amended, modified, altered, changed, terminated, or waived in any respect whatsoever, except by a further agreement in writing, properly executed by all of the parties.

**Binding Effect:** This Agreement shall bind the parties and their respective personal representatives, successors, and assigns. If any provision in this agreement shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

**Captions:** The captions of this agreement are for convenience and reference only, are not a part of this agreement, and in no way define, describe, extend, or limit the scope or intent of this agreement.

**Construction:** This agreement shall be construed in its entirety according to its plain meaning and shall not be construed against the party who provided or drafted it.

**Mandatory and Permissive:** “Shall”, “will”, and “agrees” are mandatory; “may” is permissive.

**Governing Law:** The laws of the State of Alabama, but without regard to conflict of laws principles, shall govern the validity of this agreement, the construction of its terms, the interpretation of the rights, the duties of the parties, the enforcement of its terms, and all other matters relating to this agreement.

**Prohibition on Assignment and Delegation:** No party to this agreement may assign or delegate its interests or obligations hereunder without the written consent of all other parties hereto obtained in advance of any such assignment or delegation. No such assignment or delegation shall in any manner whatsoever relieve any party from its obligations and duties hereunder and such assigning or delegating party shall in all respects remain liable hereunder irrespective of such assignment or delegation.

**Waiver:** Non-enforcement of any provision of this agreement by either party shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remaining terms and conditions of the agreement.

**Agreement Date/Counterparts:** The date of this agreement is intended as and for a date for the convenient identification of this agreement and is not intended to indicate that this

agreement was necessarily executed and delivered on said date. This instrument may be executed in any number of counterparts, each of which so executed shall be deemed an original, but all such counterparts shall together constitute but one and the same instrument.

**Arbitration:** Should any dispute between Consultant and Client arise at any time out of any aspect of this Agreement or the relationship hereunder, or against any employee, officer, agent, director, member, affiliate, subsidiary or parent, the parties hereto agree to have any such dispute resolved by final and binding arbitration in accordance with the rules of the American Arbitration Association.

**CLIENT:**

**City of Norcross, Georgia**

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

**CONSULTANT:**

**r360, LLC**

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_



## EXHIBIT A

### CUSTOMIZED CONSULTING ENGAGEMENT



## INITIAL ENGAGEMENT

**PRICING \$35,000 JULY 1, 2016 THROUGH AUGUST 31, 2017.**

- **Market/Trade Area Research and Analysis for the Norcross market to include the identification of custom retail trade areas, research and analysis on the primary retail trade corridors and research to facilitate organic and entrepreneurial growth in Downtown Norcross**
- On Demand Research Reports
- Retailer Target List
- Marketing materials and Social Media initiatives
- Proactive marketing and representation at national and regional ICSC retail real estate conferences
- **Provide a recruitment strategy for Downtown Norcross focused on organic growth and outreach to boutique retail and chef driven restaurant concepts in peer and contiguous markets**

## RENEWAL OPTIONS

**PRICING \$30,000 per year for the first and second renewal terms.**

For years Year 2 (the first renewal term, September 1, 2017 through August 31, 2018) and 3 (the second renewal term, September 1, 2018 through August 31, 2019), the City of Norcross will have the option of renewing the agreement with r360, LLC **at the cost of \$30,000 per annual term**, to provide updated research, on-demand research reports/analysis and all other services provided in Year 1:

- Updated Market/Trade Area Research and Analysis
- On Demand Research Reports
- Updated Retailer Target List
- Updated Marketing materials and Social Media initiatives
- Proactive marketing and representation at national and regional ICSC retail real estate conferences

**PRICING – \$34,500 FOR THE THIRD AND FOURTH RENEWAL TERMS**

The City of Norcross shall have the option, for years 4 (the third renewal term, September 1, 2019 through August 31, 2020) and 5 (the fourth renewal term, September 1, 2020 through August 31, 2021), to renew r360 services at the **cost of \$34,500.00 per annual term**.

**The City of Norcross may, at its discretion and under a separate agreement, choose to engage r360's strategic partner, Daniel Community Advisors, to provide Real Estate Advisory Services in the future.**

## **RESEARCH - ANALYSIS - MARKETING:**

### **r360 Research**

Our research solutions are customized versus the industry standard pre-formatted radius or drive-time areas. Each city, community, or retail trade area requires unique analysis based on numerous factors including natural boundary areas, current retail tenant mix, competition, travel times, radius areas and existing sites/buildings. Our research focuses on identifying the decision critical data that will most likely influence the site location decisions by retailers. Once these data points are determined – we provide thematic maps, aerial photos, asset maps, and customized research reports by retail sector.

r360's primary data resources include:

#### **CENSUS, AGS, CLARITAS & ESRI DEMOGRAPHICS**

By incorporating demographic data from multiple sources, DDR is able to better understand the population, income and retail spending shifts taking place in the current economic environment. Our data also provides historical perspective and projected growth opportunities.

#### **BUSINESS LOCATION DATA**

This location data is ideal for competitive analysis, understanding market opportunities and evaluating market dynamics.

Sourced to D&B®, the world's most trusted source of sales and marketing solutions, all D&B information is powered by DUNSRight™, D&B's Quality Process which gives you the insight you need to identify and target prospects.

#### **CONSUMER SPENDING**

This data includes 18 reports and over 1,000 variables that collectively cover approximately 95% of household spending. Based on extensive modeling of the BLS Consumer Expenditure Survey, Consumer Spending provides reliable estimates of market demand and average household expenditures.

#### **RETAIL POTENTIAL**

This new tabulation utilizes the Census of Retail Trade tables which cross-tabulates store type by merchandise line. The Consumer Expenditure data was aggregated to the merchandise line classification and then distributed to each of the major store types.

## **TAPESTRY SEGMENTATION PROFILES**

Tapestry classifies US neighborhoods into 65 market segments based on socioeconomic and demographic factors, then consolidates them into LifeMode and Urbanization Groups.

## **CONSUMER BEHAVIOR & ATTITUDES**

The consumer behavior database consists of approximately 1800 indexes of product consumption, lifestyle preferences, product ownership, and attitudes. The database is derived from an analysis of the MRI surveys using MOSAIC and offers insight into the consumption patterns and preferences of consumers.

## **r360 Analysis**

## **RETAIL GAP/LEAKAGE SUMMARY**

One of the most critical components of any retail research/consulting engagement is accurate retail leakage analysis – measuring household spending by category that is leaving the designated trade area to purchase goods and services. Capturing this leakage through development and redevelopment broadens the tenant mix, creates jobs and leads to additional retail sales tax revenue.

## **COMMUNITY PEER ANALYSIS**

Developers and retailers are always looking for opportunities in cities/trade areas that are similar to previous projects they have completed. We have developed a software solution that allows us to very quickly identify similar geographies (peers) based on a set of demographic, consumer spending and population segmentation variables – allowing us to match potential developments and new retail based on existing locations.

## **FOCUS PROPERTIES**

The r360 team will work with your organization, local property owners and active commercial brokers in your market to determine the appropriate Focus Properties to position as opportunities to developers, tenant reps and retailers. Once we've identified these opportunities, we will upload them to OppSites.com on your behalf (see the OppSites discussion below).

## **RETAILER TARGET LIST**

The r360 team, leveraging our experience, resources and contacts throughout the U.S. will build a retailer target list to zero in on those retailers most likely to consider your city/retail trade area for future expansion. We will also match the retailers in this list to developers that have done single and multi-tenant projects with these concepts.

## **AERIAL MAPS OF CURRENT RETAILERS**

Our Regis software creates aerials by city, retail trade area or development/redevelopment zones including locations of all current regional and national retailers. These aerial maps become key components of the Retail Marketing Brochure.

## **RESEARCH ON-DEMAND**

All r360 clients have the ability to contact us to request up to twelve customized demographic research reports for specific sites or retail concept.

## **r360 Pro-active Marketing**

### **RETAIL MARKETING BROCHURE**

Highlights the Focus Properties in your city, key demographic statistics and includes an 11x17 aerial overview of the current retail landscape in the trade area.

## **BASECAMP**

Upon completion of the research component of our engagement, the r360 team creates an online account through BASECAMP, a document management and communication platform, available to the appropriate contacts in your city/organization to access all research, analysis and marketing materials.



Legislation Details (With Text)

**File #:** 16-4419      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 6/9/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** A Resolution to Approve a List of Projects for the Proposed 2017 Gwinnett County SPLOST Referendum

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** [1. 2017 SPLOST resolution](#), [2. SPLOST Allocations Exhibit A](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		

**Title**

**A Resolution to Approve a List of Projects for the Proposed 2017 Gwinnett County SPLOST Referendum**

**Drafter**

**Rudolph Smith**

**Motion**

**A Motion to Approve a Resolution Listing Projects for a 2017 Gwinnett County Special Purpose Local Option Sales Tax (SPLOST) Referendum and to Authorize The Mayor and City Attorney to Execute an Intergovernmental Agreement with Gwinnett County.**

A RESOLUTION TO APPROVE A LIST OF PROJECTS FOR A 2017 GWINNETT COUNTY SPECIAL PURPOSE LOCAL OPTION SALES TAX (SPLOST) REFERENDUM AND TO AUTHORIZE THE MAYOR AND CITY ATTORNEY TO EXECUTE AN INTERGOVERNMENTAL AGREEMENT WITH GWINNETT COUNTY

WHEREAS, Gwinnett County has notified the City that it is considering placing a referendum question before the voters of Gwinnett County to allow continuation of the Special Purpose Local Option Sales Tax (SPLOST) in 2017; and

WHEREAS, Gwinnett County has invited the City to review and identify qualifying projects for such SPLOST; AND

WHEREAS, the SPLOST program in Gwinnett County has historically funded a wide variety of public projects for the benefit of the citizens of the City; and

WHEREAS, the City is a “qualified municipality” as defined by O.C.G.A Sec. 48-8-110(4), and as such, is eligible to receive Special Purpose Local Option Sales Tax (SPLOST) proceeds; and

WHEREAS, it is in the best interest of the health, safety and welfare of the citizens of the City to designate qualifying projects for consideration by the voters in such referendum and to participate in the negotiation and execution of an appropriate Intergovernmental Agreement for Use and Distribution of any such SPLOST proceeds;

NOW THEREFORE, THE COUNCIL OF THE CITY OF NORCROSS HEREBY RESOLVES, that the qualifying projects listed on Exhibit “A” attached hereto and incorporated herein by reference are approved and ratified for inclusion in the 2017 SPLOST referendum in Gwinnett County. IT IS FURTHER RESOLVED that the Mayor and City Attorney are hereby authorized to execute a negotiated Intergovernmental Agreement with Gwinnett County for Use and Distribution of Proceeds Generated by the 2017 SPLOST Referendum.

SO RESOLVED this \_\_\_ day of (June or July), 2016.

# Exhibit “A”

The City of Norcross’ capital outlay projects to be funded from the proceeds of the Special Purpose Local Option Sales Tax (SPLOST) and the estimated dollar amounts allocated for each project category are as follows:

Recreation	50%	\$	7,619,342.00
Transportation	40%	\$	6,095,473.60
Parking	10%	\$	1,523,868.40



Legislation Details (With Text)

**File #:** 16-4421      **Version:** 1

**Type:** Agenda Item      **Status:** Agenda Ready

**File created:** 6/15/2016      **In control:** Mayor and Council

**On agenda:** 7/5/2016      **Final action:**

**Title:** 2017 SPLOST IGA with Gwinnett County

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** [1. 2016 SPLOST IGA 06-17-16 clean](#)

Date	Ver.	Action By	Action	Result
6/20/2016	1	Policy Work Session		

**Title**  
**2017 SPLOST IGA with Gwinnett County**

**Drafter**  
**Rudolph Smith**

**Motion**  
**A motion to Approve/Deny the attached SPLOST IGA with Gwinnett County for Use and Distribution of Proceeds Generated By the 2016 SPLOST Referendum.**

STATE OF GEORGIA

COUNTY OF GWINNETT

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

**THIS AGREEMENT** is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016 by and between **GWINNETT COUNTY, GEORGIA**, a political subdivision of the State of Georgia headquartered at 75 Langley Drive, Lawrenceville, Georgia 30046 (hereinafter referred to as “**County**”); the **CITY of AUBURN**, a municipal corporation chartered by the State of Georgia and headquartered at 1369 Fourth Avenue, Auburn, Georgia (hereinafter referred to as “**Auburn**”); the **CITY OF BERKELEY LAKE**, a municipal corporation chartered by the State of Georgia and headquartered at 4040 S. Berkeley Lake Road NW, Berkeley Lake, Georgia (hereinafter referred to as “**Berkeley Lake**”); the **TOWN OF BRASELTON**, a municipal corporation chartered by the State of Georgia and headquartered at 4982 Highway 53, Braselton, Georgia (hereinafter referred to as “**Braselton**”); the **CITY OF BUFORD**, a municipal corporation chartered by the State of Georgia and headquartered at 2300 Buford Highway, Buford, Georgia (hereinafter referred to as “**Buford**”); the **CITY OF DACULA**, a municipal corporation chartered by the State of Georgia and headquartered at 442 Harbins Road, Dacula, Georgia (hereinafter referred to as “**Dacula**”); the **CITY OF DULUTH**, a municipal corporation chartered by the State of Georgia and headquartered at 3167 Main Street, Duluth, Georgia (hereinafter referred to as “**Duluth**”); the **CITY OF GRAYSON**, a municipal corporation chartered by the State of Georgia and headquartered at 475 Grayson Parkway, Grayson, Georgia (hereinafter referred to as “**Grayson**”); the **CITY OF LAWRENCEVILLE**, a municipal

corporation chartered by the State of Georgia and headquartered at 70 South Clayton Street, Lawrenceville, Georgia (hereinafter referred to as “**Lawrenceville**”); the **CITY OF LILBURN**, a municipal corporation chartered by the State of Georgia and headquartered at 76 Main Street, Lilburn, Georgia (hereinafter referred to as “**Lilburn**”); the **CITY OF LOGANVILLE**, a municipal corporation chartered by the State of Georgia and headquartered at 4385 Pecan Street, Loganville, Georgia (hereinafter referred to as “**Loganville**”); the **CITY OF NORCROSS**, a municipal corporation chartered by the State of Georgia and headquartered at 65 Lawrenceville Street, Norcross, Georgia (hereinafter referred to as “**Norcross**”); the **CITY OF PEACHTREE CORNERS**, a municipal corporation chartered by the State of Georgia and headquartered at 147 Technology Parkway, Suite 200, Peachtree Corners, Georgia (hereinafter referred to as “**Peachtree Corners**”); the **CITY OF REST HAVEN**, a municipal corporation chartered by the State of Georgia and headquartered at 428 Thunder Road, Buford, Georgia (hereinafter referred to as “**Rest Haven**”); the **CITY OF SNELLVILLE**, a municipal corporation chartered by the State of Georgia and headquartered at 2342 Oak Road, Snellville, Georgia (hereinafter referred to as “**Snellville**”); the **CITY OF SUGAR HILL**, a municipal corporation chartered by the State of Georgia and headquartered at 5039 West Broad Street, Sugar Hill, Georgia (hereinafter referred to as “**Sugar Hill**”); and the **CITY OF SUWANEE**, a municipal corporation chartered by the State of Georgia and headquartered at 330 Town Center Avenue, Suwanee, Georgia (hereinafter referred to as “**Suwanee**”); each of which has been duly authorized to enter into this Agreement.

**WITNESSETH**

**WHEREAS**, the parties to this Agreement consist of Gwinnett County and all Municipalities (hereinafter referred to as “Cities,”) located wholly or partially within Gwinnett County, Georgia; and

**WHEREAS**, the parties anticipate that Gwinnett County will approve and sign a Resolution authorizing the Gwinnett County Board of Registrations and Elections to call a Referendum on the issue of the imposition of a Special Purpose Local Option Sales Tax to begin on April 1, 2017 immediately following the expiration of the Special Purpose Local Option Sales Tax presently in effect in Gwinnett County; and

**WHEREAS**, the law authorizing the call of a Referendum on the issue of the imposition of a Special Purpose Local Option Sales Tax was amended during the 2004 Legislative Session of the Georgia General Assembly; and

**WHEREAS**, Official Code of Georgia Annotated Section 48-8-115 now authorizes the execution of an Intergovernmental Agreement controlling the distribution and use of Special Purpose Local Option Sales Tax proceeds by the County and one or more qualified municipalities located within the Special District containing a combined total of not less than fifty percent of the aggregate municipal population located within the Special District; and

**WHEREAS**, for the purposes of this Intergovernmental Agreement and the distribution of proceeds for the April 1, 2017 through March 31, 2023 Special Purpose Local Option Sales Tax, the Special District shall be known as the boundaries of Gwinnett County; and

**WHEREAS**, the sixteen Cities located wholly or partially within Gwinnett County have certified they are qualified municipalities based upon the Official Code of Georgia Annotated and are eligible to receive distributions of Special Local Option Sales Tax Proceeds; and

**WHEREAS**, the County and all Cities located wholly or partially within Gwinnett County have determined that it is in their best interest to enter into an Intergovernmental Agreement authorized by Official Code of Georgia Annotated Sections 48-8-110 et seq.; and

**WHEREAS**, the parties hereto are interested in serving the needs of the residents of Gwinnett County by planning and performing capital outlay projects within the County and Cities which are parties to this Agreement; and

**WHEREAS**, the parties intend that the capital outlay projects which are the subject of this Agreement shall benefit residents of Gwinnett County and all of its Cities; and

**WHEREAS**, capital outlay projects funded from past Special Purpose Local Option Sales Tax proceeds have benefited residents of Gwinnett County and all of its Cities, and

**WHEREAS**, past Special Purpose Local Option Sales Tax proceeds have allowed Gwinnett County to purchase an unprecedented number of acres of land for parks and greenspace; and

**WHEREAS**, past Special Purpose Local Option Sales Tax proceeds have funded new libraries, public safety facilities, and road improvements to serve the needs of the County's residents and businesses; and

**WHEREAS**, the County and all Cities located within Gwinnett County have worked together to improve the County's infrastructure as a result of the collection of past Special Purpose Local Option Sales Tax proceeds; and

**WHEREAS**, the County and all its Cities have identified capital needs that are important to the current and future well-being of their residents and have determined that proceeds from the Special Purpose Local Option Sales Tax should be used to address a portion of these needs;

**NOW, THEREFORE,** in consideration of the mutual promises and understandings herein made and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto do consent and agree as follows:

1.

This Intergovernmental Agreement is approved prior to the issuance of the call of the Referendum and prior to the vote of the Gwinnett County Board of Commissioners to impose a Special Purpose Local Option Sales Tax which Tax will commence on April 1, 2017 and continue through and including March 31, 2023 pursuant to Official Code of Georgia Annotated Sections 48-8-110 et seq.

2.

Pursuant to Official Code of Georgia Annotated § 48-8-115, one percent (1.0%) of the amount of Special Purpose Local Option Sales Tax proceeds collected beginning April 1, 2017 shall be paid into the General Fund of the State of Georgia Treasury in order to defray the costs of administration.

3.

The remaining ninety-nine percent (99.0%) of the amount collected from the Special Purpose Local Option Sales Tax proceeds (hereinafter known as the “net proceeds”) collected beginning April 1, 2017 and ending March 31, 2023 shall be distributed by the State of Georgia to the Gwinnett County Board of Commissioners for distribution as follows:

(A) To facilitate the distribution of net proceeds, the parties agree that the sum of Nine Hundred Fifty Million Dollars (\$950,000,000.00) shall represent an estimate of the proceeds to be derived from the subject Special Purpose Local Option Sales Tax during its six-year term.

(B) The parties agree that there shall be no Level I or Level II County-Wide Projects as defined by the Act for the Special Purpose Local Option Sales Tax covered by this Agreement.

(C) The parties agree that the aggregated total distribution received by the Cities shall amount to twenty one and twenty four-hundredths percent (21.24%) of the net proceeds distributed by the State, with the remaining seventy eight and seventy six-hundredths percent (78.76%) of the net proceeds to be received by the County.

(D) An amount representing sixty percent (60%) of the net proceeds of the subject Special Purpose Local Option Sales Tax shall be allocated between the County and the Cities proportionally on the basis of estimated lane miles of road network. As a result, an amount equal to eighty one percent (81%) of the sixty percent (60%) portion shall be allocated to the County, with the remaining nineteen percent (19%) being allocated to the Cities on an aggregate basis. The Cities have agreed that their portion of these proceeds shall be allocated among themselves on the basis of the ratio that the population each City bears to the total population of all incorporated areas within Gwinnett County. For purposes of calculating the distribution share for each City, population figures from the Population Table listed in Section 3(E) below shall be utilized.

(E) An amount representing the remaining forty percent (40%) of the net proceeds of the subject Special Purpose Local Option Sales Tax, shall be allocated on the basis of the portion of the total population of Gwinnett County that resides in each jurisdiction. For the County, its portion shall be assumed to be based on the population of the unincorporated area of the County. The share of the forty percent (40%) of net proceeds to be allocated to each jurisdiction shall be based on the percentages shown in the table below.

POPULATION TABLE

City of Auburn (part)	230	0.0257%
City of Berkeley Lake	2,024	0.2259%
Town of Braselton (part)	3,831	0.4277%
City of Buford (part)	12,700	1.4177%
City of Dacula	5,330	0.5950%
City of Duluth	29,193	3.2588%
City of Grayson	3,147	0.3513%
City of Lawrenceville	30,493	3.4039%
City of Lilburn	12,655	1.4127%
City of Loganville (part)	2,732	0.3050%
City of Norcross	16,634	1.8568%
City of Peachtree Corners	40,978	4.5743%
City of Rest Haven (part)	34	0.0038%
City of Snellville	19,733	2.2028%
City of Sugar Hill	21,747	2.4276%
City of Suwanee	18,694	2.0868%
Gwinnett County	675,668	75.4242%
Total	895,823	100.00000%

(F) The percentage of total net proceeds calculated for each City based on the combination of (D) and (E) above shall be adjusted proportionally, if necessary, to ensure that

the Cities on an aggregate basis receive the full twenty one and twenty four-hundredths percent (21.24%) of net proceeds distributed by the State, as agreed to by the parties.

(G) Based upon above provisions, the net proceeds of the Special Purpose Local Option Sales Tax which the County receives on a monthly basis from the State shall be distributed to the Cities and the County in such a way that each jurisdiction receives an amount equal to the percentage shown for it in the table below:

DISTRIBUTION OF NET PROCEEDS TABLE

Auburn	.22%
Berkeley Lake	.195%
Braselton	.370%
Buford	1.225%
Dacula	.514%
Duluth	2.816%
Grayson	.304%
Lawrenceville	2.942%
Lilburn	1.221%
Loganville	.264%
Norcross	1.605%
Peachtree Corners	3.953%
Rest Haven	.003%
Snellville	1.904%
Sugar Hill	2.098%
Suwanee	1.804%
Subtotal – Cities	21.24%
Gwinnett County (Unincorporated)	78.76%
Grand Total	100.0000%

(H) No projects will be given preference in the funding and distribution process in such a way that the monthly distribution formula is affected.

(I) Should any City cease to exist as a legal entity prior to all funds being distributed under this Agreement, such City's share of the funds subsequent to dissolution shall be paid to the County as part of the County's share unless an act of the Georgia Legislature makes all of the defunct City part of another successor City. If such an act is passed, the defunct City's remaining share shall be paid in addition to all other funds to which such successor City would otherwise be entitled.

(J) The County will pay the funds described herein to each City, based upon the actual net proceeds received and the percentages outlined above, within thirty (30) days after funds have been received from the State.

4.

(A) In recognition of the need for transportation improvements across the County and its Cities, the parties agree that a minimum of fifty seven percent (57%) of their respective shares of the total net proceeds shall be utilized for transportation projects. In the case of the Cities, it is sufficient for them to reach the fifty seven percent (57%) threshold on an aggregate basis.

(B) To further provide for transportation improvements and encourage partnership projects between the County and the Cities, the County agrees to set aside the sum of Twenty-Five Million Dollars (\$25,000,000.00) from its allocated share of the estimated net proceeds for the purpose of funding transportation projects jointly with the Cities. Of these County funds for joint transportation projects, ten percent (10%) shall be reserved for Gwinnett Cities having a population of less than 6,000 Gwinnett residents. The joint transportation funds will be utilized

in accordance with eligibility and selection criteria jointly defined by the County and the Cities. Cities will submit proposed projects to the County for review and recommendation by the County's Citizens Project Selection Committee, based on the criteria defined by the County and the Cities. The use of the funds will be approved by Gwinnett County, based upon the recommendation from the County's Citizens Project Selection Committee. Each sponsoring City shall provide at least nineteen percent (19%) matching funds from its own sources for its projects which are approved pursuant to this paragraph. Separate Intergovernmental Agreements, which control the specific provisions and funding arrangements for each of these joint projects, shall be executed between the County and each respective individual City. Cities shall have until December 31, 2017 to enter agreements with the County for allocation of the joint transportation funds.

(C) To further provide for parks and recreation improvements and encourage partnership projects between the County and the Cities, the County agrees to set aside the sum of Nine Million Dollars (\$9,000,000.00) from its allocated share of the estimate net proceeds for the purpose of funding parks and recreation projects jointly with the Cities. Of these County funds for joint parks and recreation projects, ten percent (10%) shall be reserved for Gwinnett Cities having a population of less than 6,000 Gwinnett residents. The joint parks and recreation funds will be utilized in accordance with eligibility and selection criteria jointly defined by the County and the Cities. These funds may be utilized for joint projects in City parks or any public property. Cities will submit proposed projects to the County for review and recommendation by the County's Recreation Authority. Each sponsoring City shall provide at least twenty five percent (25%) matching funds from its own sources for its projects which are approved pursuant to this paragraph. Separate Intergovernmental Agreements, which control the specific provisions

and funding arrangements for each of these joint projects shall be executed between the County and each respective individual City. Cities shall have until December 31, 2017 to enter agreements with the County for allocation of the joint parks and recreation funds.

5.

The capital outlay projects to be funded from the proceeds of the Special Purpose Local Option Sales Tax pursuant to this Agreement and the estimated dollar amounts allocated for each project category are as follows:

<b><u>Gwinnett County</u></b>	Estimated Total	\$ _____
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	

<b><u>City of Auburn</u></b>	Estimated Total	\$ _____
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	

<b><u>City of Berkeley Lake</u></b>	Estimated Total	\$ _____
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	
_____	\$ _____	

**Town of Braselton**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Buford**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Dacula**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Duluth**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Grayson**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Lawrenceville**

Estimated Total

\$ \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Lilburn**

Estimated Total

\$ \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Loganville**

Estimated Total

\$ \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Norcross**

Estimated Total

\$ \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Peachtree Corners**

Estimated Total

\$ \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Rest Haven**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Snellville**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Sugar Hill**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

**City of Suwanee**

Estimated Total

\$ \_\_\_\_\_

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\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_  
\$ \_\_\_\_\_

6.

The priority and order in which Special Purpose Local Option Sales Tax projects will be fully or partially funded is as follows: All projects shall be funded concurrently.

7.

The Special Purpose Local Option Sales Tax which is the subject of the November 8, 2016 Referendum shall continue for a period of six years from April 1, 2017 until March 31, 2023.

8.

All capital outlay projects included in this Intergovernmental Agreement shall be funded in whole or in part from proceeds from the Special Purpose Local Option Sales Tax authorized by Official Code of Georgia Annotated Sections 48-8-110 et seq. except as otherwise agreed.

9.

The net proceeds from the Special Purpose Local Option Sales Tax shall be maintained in the parties' separate accounts and utilized exclusively for the purposes specified in this Agreement. Proceeds over and above the amount estimated in the Referendum question shall be allocated in accordance with the percentages set forth in this Agreement and shall be used solely for the purposes listed herein. Each jurisdiction shall expend its portion of excess proceeds from the 2017 SPLOST Program on the categories of projects, and in the same percentages, outlined in Paragraphs 3(G) and 5 of this Agreement.

10.

The parties acknowledge that Special Local Option Sales Tax funds are not guaranteed. Proceeds under the amount estimated in the Referendum question shall be allocated in accordance with the percentages set forth in this Agreement and shall be used solely for the purposes listed herein.

11.

At the end of each party's fiscal year wherein proceeds from the Special Purpose Local Option Sales Tax are distributed, each party shall cause an audit of the distribution and use of its

portion of the net proceeds from the Special Purpose Local Option Sales Tax to be completed. Each party to this Agreement shall pay the cost of each such annual audit that it conducts. Each party shall publish each of its annual audits as required by law.

12.

In addition to the audit required by paragraph 11 of this Agreement, at the end of each calendar year wherein proceeds from the Special Purpose Local Option Sales Tax are distributed, all parties to this Agreement shall participate in a joint annual audit of the entire Special Purpose Local Option Sales Tax program approved by the voters during the November 8, 2016 Referendum. The purpose of this joint annual audit is to ensure compliance with the Resolution that resulted in the call of the Special Purpose Local Option Sales Tax Referendum. The governmental entity that receives the largest share of Special Local Option Sales Tax proceeds shall choose the auditor to conduct the annual audit, and each party to this Agreement shall pay the cost of such audit based upon such party's percentage of Special Local Option Sales Tax proceeds allocated pursuant to this Agreement.

13.

Each party to this Agreement shall maintain thorough and accurate records concerning receipt of Special Purpose Local Option Sales Tax proceeds and expenditures for each project to be undertaken by the respective City or County as described herein.

14.

Not later than December 31 of each year, each City and the County shall publish annually, in a newspaper of general circulation in the boundaries of each City and the County

and in a prominent location on each City's and the County's website, a simple nontechnical report which shows the following for each project or purpose outlined in this Agreement:

- A. Current estimated cost if it is not the original estimated cost.
- B. Amounts expended in prior years.
- C. Amounts expended in the current year.
- D. Any excess proceeds which have not been expended for a project or purpose.
- E. Estimated completion date, and the actual completion cost of a project completed during the current year.
- F. For road, street, and bridge purposes, such information shall be in the form of a consolidated schedule of the total original estimated cost, the total current estimated cost if it is not the original estimated cost, and the total amounts expended in prior years and the current year for all such projects and not a separate enumeration with respect to each individual road, street, or bridge project.
- G. A statement of what corrective action the City or County intends to implement with respect to each project which is underfunded or behind schedule.

15.

The parties shall establish a Citizen Review Committee within ninety (90) days of the November 8, 2016 Referendum, if such Referendum is approved by the electors of Gwinnett County. The Citizen Review Committee shall receive and review periodic status reports concerning all projects to be funded from the net proceeds of the 2017 Special Purpose Local Option Sales Tax Program. The County Administrator and City Managers or City Administrators, as applicable, of the parties to this Agreement shall determine the appropriate

number of members and shall establish procedures by which the Committee shall operate. The County Administrator and City Managers or City Administrators shall also determine the length of time during which the Committee shall continue to operate.

16.

This Agreement constitutes all of the understandings and agreements of whatsoever nature or kind existing between the parties with respect to distribution and use of the proceeds from the Special Purpose Local Option Sales Tax.

17.

This Agreement shall not be changed or modified except by agreement in writing executed by all parties hereto.

18.

This Agreement shall be deemed to have been made and shall be construed and interpreted in accordance with the laws of the State of Georgia.

19.

It is agreed that the illegality or invalidity of any term or clause of this Agreement shall not affect the validity of the remainder of the Agreement, and the Agreement shall remain in full force and effect as if such illegal or invalid term or clause were not contained herein.

20.

Each party to this Agreement shall comply with all applicable local, State, and Federal statutes, ordinances, rules and regulations.

21.

No consent or waiver, express or implied, by any party to this Agreement to any breach of any covenant, condition or duty of another party shall be construed as a consent to or waiver of any future breach of the same.

22.

All notices, consents, waivers, directions, requests or other instruments or communications provided for under this Agreement shall be deemed properly given if, and only if, delivered personally or sent by registered or certified United States mail, postage prepaid, as follows:

a. **If to the City of Auburn:**

Mayor  
City of Auburn  
1369 Fourth Avenue  
Auburn, Georgia 30011

b. **If to the City of Berkeley Lake:**

Mayor  
City of Berkeley Lake  
4040 S. Berkeley Lake Road  
Berkeley Lake, Georgia 30096

c. **If to the Town of Braselton:**

Mayor  
Town of Braselton  
4982 Highway 53  
Braselton, Georgia 30517

d. **If to the City of Buford:**

Chairman  
City of Buford

2300 Buford Highway  
Buford, Georgia 30518

e. **If to the City of Dacula:**

Mayor  
City of Dacula  
442 Harbins Road  
Dacula, Georgia 30019

f. **If to the City of Duluth:**

Mayor  
City of Duluth  
3167 Main Street  
Duluth, Georgia 30096

g. **If to the City of Grayson:**

Mayor  
City of Grayson  
475 Grayson Parkway  
Grayson, Georgia 30017

h. **If to the City of Lawrenceville:**

Mayor  
City of Lawrenceville  
70 South Clayton Street  
Lawrenceville, Georgia 30045

i. **If to the City of Lilburn:**

Mayor  
City of Lilburn  
76 Main Street  
Lilburn, Georgia 30047

**j. If to the City of Loganville:**

Mayor  
City of Loganville  
4385 Pecan Street  
Loganville, Georgia 30052

**k. If to the City of Norcross:**

Mayor  
City of Norcross  
65 Lawrenceville Street  
Norcross, Georgia 30071

**l. If to the City of Peachtree Corners**

Mayor  
City of Peachtree Corners  
147 Technology Parkway, Suite 200  
Peachtree Corners, Georgia 30092

**m. If to the City of Rest Haven:**

Mayor  
City of Rest Haven  
428 Thunder Road  
Buford, Georgia 30518

**n. If to the City of Snellville:**

Mayor  
City of Snellville  
2342 Oak Road  
Snellville, Georgia 30078

**o. If to the City of Sugar Hill:**

Mayor  
City of Sugar Hill  
5039 West Broad Street  
Sugar Hill, Georgia 30518

p. **If to the City of Suwanee:**

Mayor  
City of Suwanee  
330 Town Center Avenue  
Suwanee, Georgia 30024

q. **If to Gwinnett County:**

County Administrator  
Gwinnett Justice & Administration Ctr.  
75 Langley Drive  
Lawrenceville, Georgia 30046

Any party may at any time change the address where notices are to be sent or the person to whom such notices should be directed by the delivery or mailing to the above persons a notice stating the change.

23.

This Agreement shall become effective on September 1, 2016. If the November 8, 2016 Referendum concerning the imposition of the Special Purpose Local Option Sales Tax is not approved by a majority of the voters of Gwinnett County, this Agreement shall be of no force and effect after November 8, 2016.

24.

Notwithstanding the parameters of paragraph 23, this Agreement shall continue in full force and effect until July 1st of the year following completion of the last project funded from the net proceeds from the 2017 Special Purpose Local Option Sales Tax Program.

25.

The parties agree that all appropriate public facilities and buildings constructed from the 2017 Special Purpose Local Option Sales Tax Program net proceeds shall be available at no fee to the County as polling places, if needed.

26.

This Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

**IN WITNESS WHEREOF**, the parties hereto acting through their duly authorized agents have caused this Agreement to be signed, sealed and delivered for final execution by the County on the date indicated herein.

(SIGNATURE PAGES FOLLOW) (Executed in Counterparts)

ATTEST:

THE CITY OF AUBURN

BY: \_\_\_\_\_  
JOYCE BROWN  
CITY CLERK

BY: \_\_\_\_\_  
LINDA BLECHINGER, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
ROBERT JACKSON WILSON  
ROBERT JACKSON WILSON, P.C.  
10 LUMPKIN STREET  
LAWRENCEVILLE, GEORGIA 30046

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF BERKELEY LAKE

BY: \_\_\_\_\_  
TOM ROZIER  
CITY ADMINISTRATOR

BY: \_\_\_\_\_  
LOIS SALTER, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
RICHARD A. CAROTHERS  
CAROTHERS & MITCHELL, LLC  
278 WEST MAIN STREET  
BUFORD, GEORGIA 30518

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE TOWN OF BRASELTON

BY: \_\_\_\_\_  
JENNIFER DEES  
TOWN MANAGER/  
CLERK

BY: \_\_\_\_\_  
BILL ORR, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
GREGORY DAVID JAY  
CHANDLER, BRITT & JAY, LLC  
P. O. BOX 1749  
BUFORD, GEORGIA 30515-1749

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF BUFORD

BY: \_\_\_\_\_  
KIM WOLFE  
CITY CLERK

BY: \_\_\_\_\_  
PHILLIP BEARD  
COMMISSION CHAIRMAN

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
GREGORY DAVID JAY  
CHANDLER, BRITT & JAY, LLC  
P. O. BOX 1749  
BUFORD, GEORGIA 30515-1749

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF DACULA

BY: \_\_\_\_\_  
JOEY MURPHY  
CITY ADMINISTRATOR

BY: \_\_\_\_\_  
JIMMY WILBANKS, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
DENNIS T. STILL  
GARNER & STILL  
250 CONSTITUTION BLVD.  
P. O. BOX 707  
LAWRENCEVILLE, GEORGIA 30046

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF DULUTH

BY: \_\_\_\_\_  
TERESA LYNN  
CITY CLERK

BY: \_\_\_\_\_  
NANCY HARRIS, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
V. LEE THOMPSON, JR.  
THOMPSON, SWEENEY, KINSINGER & PEREIRA PC  
P.O. BOX 1250  
LAWRENCEVILLE, GA 30046-1250

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF GRAYSON

BY: \_\_\_\_\_  
LAURA PAUL-CONE  
CITY ADMINISTRATOR/  
CITY CLERK

BY: \_\_\_\_\_  
ALLISON WILKERSON, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
V. LEE THOMPSON, JR.  
THOMPSON, SWEENEY, KINSINGER & PEREIRA PC  
P.O. BOX 1250  
LAWRENCEVILLE, GA 30046-1250

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF LAWRENCEVILLE

BY: \_\_\_\_\_  
KAREN PIERCE  
CITY CLERK

BY: \_\_\_\_\_  
JUDY JORDAN JOHNSON, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
V. LEE THOMPSON, JR.  
THOMPSON, SWEENEY, KINSINGER & PEREIRA PC  
P.O. BOX 1250  
LAWRENCEVILLE, GA 30046-1250

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF LILBURN

BY: \_\_\_\_\_  
MELISSA L. PENATE  
CITY CLERK

BY: \_\_\_\_\_  
JOHNNY CRIST, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
RICHARD A. CAROTHERS  
CAROTHERS & MITCHELL, LLC  
278 WEST MAIN STREET  
BUFORD, GEORGIA 30518

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF LOGANVILLE

BY: \_\_\_\_\_  
BILL JONES  
CITY MANAGER

BY: \_\_\_\_\_  
DANNY W. CURRY, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
ROBYN WEBB  
CRUSER & MITCHELL, LLP  
MERIDIAN, II, SUITE 2000  
275 SCIENTIFIC DRIVE  
NORCROSS, GEORGIA 30092

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF NORCROSS

BY: \_\_\_\_\_  
MONIQUE LANG  
CITY CLERK

BY: \_\_\_\_\_  
BUCKY JOHNSON, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
J. PATRICK O'BRIEN  
THOMPSON, O'BRIEN, KEMP & NASUTI, P.C.  
40 TECHNOLOGY PARKWAY SOUTH, SUITE 300  
NORCROSS, GEORGIA 30092

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF PEACHTREE CORNERS

BY: \_\_\_\_\_  
KYM CHERECK  
CITY CLERK

BY: \_\_\_\_\_  
MIKE MASON, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
WILLIAM F. RILEY, JR.  
RILEY MCCLENDON, LLC  
315 WASHINGTON AVE.  
MARIETTA, GA 30060

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF REST HAVEN

BY: \_\_\_\_\_  
MONICA JACOBS  
CITY CLERK

BY: \_\_\_\_\_  
KENNETH WAYCASTER  
MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
GREGORY DAVID JAY  
CHANDLER, BRITT & JAY, LLC  
P. O. BOX 1749  
BUFORD, GEORGIA 30515-1749

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF SNELLVILLE

BY: \_\_\_\_\_  
MELISA ARNOLD  
CITY CLERK

BY: \_\_\_\_\_  
TOM WITTS, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
ANTHONY O.L. POWELL  
WEBB, TANNER & POWELL PC  
P.O. BOX 1390  
LAWRENCEVILLE, GEORGIA 30046

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF SUGAR HILL

BY: \_\_\_\_\_  
JANE WHITTINGTON  
CITY CLERK

BY: \_\_\_\_\_  
STEVE EDWARDS, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
V. LEE THOMPSON, JR.  
THOMPSON, SWEENEY, KINSINGER & PEREIRA PC  
P.O. BOX 1250  
LAWRENCEVILLE, GA 30046-1250

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

THE CITY OF SUWANEE

BY: \_\_\_\_\_  
ELVIRA ROGERS  
CITY CLERK

BY: \_\_\_\_\_  
JIMMY BURNETTE, MAYOR

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
GREGORY DAVID JAY  
CHANDLER, BRITT & JAY, LLC  
P. O. BOX 1749  
BUFORD, GEORGIA 30515-1749

**INTERGOVERNMENTAL AGREEMENT FOR USE AND DISTRIBUTION OF  
PROCEEDS GENERATED BY THE 2016 SPECIAL PURPOSE LOCAL OPTION  
SALES TAX REFERENDUM**

(Executed in Counterparts)

ATTEST:

GWINNETT COUNTY, GEORGIA

BY: \_\_\_\_\_

DIANE KEMP  
COUNTY CLERK

BY: \_\_\_\_\_

CHARLOTTE J. NASH  
CHAIRMAN  
GWINNETT COUNTY BOARD OF  
COMMISSIONERS  
75 LANGLEY DRIVE  
LAWRENCEVILLE, GEORGIA 30046

[SEAL]

DATE: \_\_\_\_\_

APPROVED AS TO FORM:

BY: \_\_\_\_\_

VAN STEPHENS  
CHIEF ASSISTANT COUNTY ATTORNEY  
GWINNETT COUNTY DEPARTMENT OF LAW  
75 LANGLEY DRIVE  
LAWRENCEVILLE, GEORGIA 30046

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