ADDENDUM NO. 1

ITB# 17-276-G
MILLBROOK CIRCLE WATER MAIN REPLACEMENT
CITY OF ROSWELL, GEORGIA

This addendum hereby amends and/or modifies the Invitation to Bid, Contract Documents, Detailed Specifications, and Drawings, as indicated, which have been issued for this project. Additionally, questions received by the City of Roswell to date are answered at the end of this addendum. All bidders are subject to the provisions of this addendum and shall acknowledge receipt of this addendum on the bid form.

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1 ADVERTISEMENT TO BID AND COVER PAGE

A. ITB response due date and ITB opening date are hereby extended until November 10, 2017.

B. Deadline for Receipt of Written Questions is hereby extended until October 27, 2017.

C. Deadline for Posting of Written Answers to City's Website is hereby extended until October 31, 2017.

D. Times remain unchanged.

2 SPECIFICATIONS

A. **ADD** the attached Table of Contents.

B. **ADD** the attached DCA Mandatory Section 3 Solicitation Package, January 2, 2014.

C. **ADD** the attached technical specifications 01010 through 15000.

D. **ADD** the attached Davis Bacon Wage Determination

3 DRAWINGS

A. On Sheet No. 1, **ADD** the following note to the General Construction Notes:

19. Polyethylene water line shall have tracer wire installed above the top of the pipe. Tracer wire shall terminate in valve boxes.

B. **REPLACE** the following drawings with the attached drawings.

1. Sheet No. 2
2. Sheet No. 3

4 QUESTIONS AND ANSWERS

#	QUESTION	ANSWER
1.	What are the work hours allowed?	Monday thru Saturday 7am-7pm.
2.	I'm writing in regards to the Millbrook Circle Water Main Replacement project. I was hoping to find out if there was an estimated project value or budget for this project. I was also hoping to find out if there was going to be a pre-bid sign in sheet available for this project, I didn't see one posted on the website.	The government estimate for this project is $180,000-$215,000. A Pre Bid sign in sheet will be posted.
3.	What size is the receiving pit?	10'ft x10'ft receiving pit as depicted in the plan set.
4.	There are some references in the Bid to documents that I can't locate.	Please see additional documents provided in Addendum #1.

** END OF ADDENDUM **

TABLE OF CONTENTS

Georgia Department of Community Affairs
60 Executive Park South, NE, Atlanta, GA 30329

Mandatory Section 3 Solicitation Package

This mandatory solicitation package has been developed in accordance with DCA's Section 3 Policy for Covered HUD Funded Activities. DCA encourages all sub-recipients, contractors, and sub-contractors to review this policy prior to completion of the solicitation package. For those solicitations that meet the applicable Section 3 thresholds, this package must be returned in its entirety to the contracting entity. The Section 3 Clause, required forms, and instructions are included in this package.

The following Section 3 forms must be completed and returned as instructed:

- Section 3 Self Certification and Action Plan
- Previous Section 3 Compliance Certification
- Assurance of Compliance Certification

Additionally, if the contractor is claiming certification as a 51% Resident Owned Business (ROB) or is certifying as a 30% employer, the Resident Self-Certification and Skills Data Form must be returned for all employees who meet the low- or very low-income requirement as well as the appropriate Section 3 Business Certification.

Section 3 Solicitation Overview and Instructions for Contractors

The DCA Section 3 Policy requires that, when the **Section 3 regulation is triggered,** every effort within the contractor's disposal must be made, to the greatest extent feasible, to offer all available employment and contracting opportunities to Section 3 residents and Section 3 businesses based on the compliance methods below.

All Contracts and All Contractors must meet Section 3 compliance by:

A. Giving notice of any and all opportunities for employment and contracting to residents of the local Public Housing Authority (PHA), and other low and very low income area residents and businesses, by posting the opportunity in community sources generally available to low income residents and the general public. Exercising a ***minimum of three (3)*** of the following listed sources must be completed prior to offering employment to anyone not covered by Section 3 requirements:

   1. The local community newspaper
   2. The most widely distributed newspaper
   3. Company or agency website
   4. The management office of the local housing authority/homeless service agency/local low income housing community
   5. Local Workforce Board (i.e. Department of Labor)
   6. Local office of the Georgia Division of Family and Children Services
   7. Dodge Room http://www.construction.com/dodge/dodge.asp
   8. Other locations as approved by DCA

B. Clearly stating in notices that the position is a "Section 3 covered position under the HUD Act of 1968 and that Section 3 Residents and Business Concerns are encouraged to apply."

C. Placing the Section 3 Clause provided in Appendix A in ALL solicitations.

D. When possible, other activities may be done to demonstrate effort to comply with the Safe Harbor Limits. These other efforts are listed in the appendix to part 135 of the Code of Federal Regulations—24 CFR Part 135 and include:

   1. Distributing or posting flyers advertising positions to be filled;
   2. Contacting the local government or housing authority for a list of residents who have expressed interest in Section 3 employment;
   3. Holding job informational meetings for residents, contractors, etc…;
   4. Contacting agencies administering HUD YouthBuild programs and requesting their assistance in recruiting HUD YouthBuild program participants for training and employment positions.

E. Linking residents or businesses to local resources that may be available to help prepare them for applying for and achieving the opportunity.

F. Working with DCA, the subrecipient or contractor as applicable in developing a communication and follow up process to track and report all Section 3 applications and hiring activities to ensure the reporting of compliance efforts, and that contracting and sub-contracting are accurate. Provide preference in hiring and contracting to Section 3 applicants and contractors when employment or contracting opportunities are offered and all requirements are met and remain equal. Contractors must:

1. Provide this package to all sub-contractors when soliciting bids for all contracts or sub-contracts;
2. Meet all the same processes in A-E; and
3. Provide Preference to all sub-contractors meeting the definitions as stated in Section VI of DCA's Section 3 Policy for Covered HUD Funded Activities.

G. In order for Preference as a Section 3 Contractor to be factored into the award decision, all elements of the solicitation criteria must be equal between contracts. This means price and all other factors must be equal. Then the contractors that elect Preference on the Certification and Action Plan form that meet that Preference criterion will be provided Preference in the award of the contract as provided in Part VI., Preferences and Eligibility of DCA's Section 3 Policy for Covered HUD Funded Activities.

Example:
Bill's electrical and Sue's Electrical bid a job where the housing authority has a budget of $500,000. Bill bids $480,000 and elects a Preference as a Section 3 business concern because he qualifies as a 51% Resident Owned Business. Sue bids $450,000 but does not elect any Preference. Both companies met all the other requirements. Sue will be awarded the contract because Bill's bid was higher.

Important items to remember about receiving Preferences in contract award:

All contractors and/or subcontractors that elect a Preference and are awarded a contract must be in compliance prior to the issuance of a Notice to Proceed by DCA, the subrecipient, or the contractor based on the policies established for the applicable DCA funding program. The contractor and/or subcontractor must maintain the elected Preference standard during the entire contract or risk having the contract terminated for failure to comply. **See Appendix B for further details.**

When a contractor and/or subcontractor that elected a Preference is unable to identify a Section 3 resident or a Section 3 business for employment or contracting opportunities, the contractor then ***must*** offer employment related training to the Section 3 residents in the county. The training must be provided according to Part VII – Other Economic Opportunities in DCA's Section 3 Policy.

Appendix A
Section 3 Clause

Training and Employment Opportunities for Residents in the Project Area (Section 3, HUD Act of 1968; 24 CFR 135)

(a) The work to be performed under this contract is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

(b) The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 135, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 135 regulations.

(c) The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of Section 3 apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

(d) The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 135.

(e) The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 135.

(f) Noncompliance with HUD's regulations in 24 CFR Part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

Appendix B

Section 3 Contract Non-Compliance Cure /Termination Processes

This language is a component of contract compliance with the work to which you are responding in this solicitation. The full requirements are provided in the Section 3 Clause found elsewhere in this package and in DCA's Section 3 Policy for Covered HUD Funded Activities.

Any subrecipient or contractor claiming Preference **must be in compliance prior to issuance of a notice to proceed by DCA, subrecipient, or contractor based on the policies established for the applicable DCA funding program. This preference can be met by any of the three qualifications:**

1. Resident Owned Businesses (ROBs) owned and operated at 51% by Section 3 Residents.
2. Businesses that employ Section 3 residents at no less than 30% of the contractors aggregate full time staff.
3. Contractors that at the time of bid show evidence (meaning the specific name and preference met) of their intent to award no less than 25% of their total award to Section 3 business concerns.

The subrecipient or contractor must maintain compliance throughout the life of the contract. The contractor understands and agrees that a compliance management firm may be used to conduct routine and certified payroll reviews to ensure compliance. The Contractor agrees to provide the payroll data in an Excel or Word format each time the payroll is processed throughout the contract.

Failure to meet the Section 3 requirements will result in penalties up to and including contract termination. Any contractor triggering the regulation by doing any hiring or contracting once they are awarded the contract through execution must comply with the Section 3 requirements by executing the efforts on their Certification and Action Plan in accordance with DCA's Section 3 Policy.

DCA, the subrecipient or contractor shall execute these remedies to achieve compliance in this order:

NON-COMPLIANCE CURE PROCESS

A. Based on the first observation or report of non-compliance with Section 3, the subrecipient or contractor will be sent an e-mail by the compliance manager notifying them of their non-compliance issue. The subrecipient or contractor will have until the next payroll or 10 business days, whichever is less, to bring the contract into compliance and/or justify in writing why they cannot meet compliance requirements.

B. DCA, the subrecipient or contractor must render a response to the violating party within 10 business days of receipt of the violating party's letter of reason for non-compliance. If DCA, the subrecipient, or the contractor deems the reason to be unacceptable, at its option, DCA, the subrecipient, or the contractor can extend the response period one time

for up to 5 business days to allow the violating party to identify and secure other compliance options.

NON-COMPLIANCE TERMINATION PROCESS

If the violating party fails to take any corrective action to bring the contract into compliance within the allotted time, or DCA, the subrecipient, or the contractor rejects any of the corrective plans and justifications for non-compliance, DCA, the subrecipient, or the contractor will either terminate the contract immediately or impose liquidated damages equal to the number of days out of compliance divided by the total contract period multiplied by the contract amount. For example, if a violating party is out of compliance for 30 days of a total contract period of 120 days and as part of total contract of $600,000, then the liquidated damages will equal 25% (30/120) of the total contract amount ($600,000), or $150,000. At DCA's determination, any liquidated damages received must be paid to the subrecipient or DCA, at DCA's determination, and be used to promote economic opportunities for Section 3 Residents and Business Concerns.

DCA, the sub-recipient, or the contractor will hold **all funds due to the violating party until such time that a financial workout is completed**.

Additionally the violating party may be banned by DCA, the sub-recipient, and the contractor on future HUD funded projects.

Appendix C
Section 3 Forms

Georgia Department of Community Affairs
Required Submittal - Section 3 Self-Certification and Action Plan

All firms and individuals intending to do business with DCA, its subrecipients and contractors MUST complete and submit this Action Plan and submit it with the bid, offer, or proposal. ***Any solicitation response that does not include this document (completed, signed, and notarized) will be considered non-responsive and not eligible for award.***

Business Name:		
D.B.A. (if different from above):		
Address:	City:	State/Zip:
Business Phone: ( )	Fax: ( )	
E-Mail:	Business Website:	
Federal Employer Identification Number:	Owner Social Security Number (if no EIN):	
Contact Person & Title:	Contact Phone:	

Trade Description:

☐ Carpentry	☐ Heating (HVAC)	☐ Electrical	☐ Painting
☐ Masonry Restoration	☐ Asbestos	☐ Plumbing	☐ Roofing
☐ Lead (Abatement)	☐ General Contractor	☐ Concrete	☐ Ironwork
☐ Carpet/Flooring	☐ Rubbish Removal/Hauling	☐ Appraisal Services	☐ Landscaping
☐ Demolition	☐ Other:		

Date Business was established (MM/DD/YYYY): _____

Type of Business (Check One): ☐Corporation ☐ Partnership ☐ Sole Proprietorship
☐ Limited Liability Corporation (LLC) ☐ Limited Liability Partnership (LLP) ☐ Joint Venture
☐ Other (Describe):

Number of employees: Full-time: _____ Part-time: _____ Contract: _____ **Total:** _____

Section 3 employees: Full-time: _____ Part-time: _____ Contract: _____ **Total:** _____

I am Certifying as a Section 3 Business Concern and requesting Preference accordingly (Select only One Option):

Option 1

☐ A business claiming status as a Section 3 Resident-Owned Business Concern (ROB) entity:

_____Initial here to confirm selection of this option

Option 2

☐ A business claiming Section 3 status, because at least 30% of the existing or newly hired workforce for this specific contract will be Section 3 residents throughout the entire contract period. If a Prime or General Contractor is electing this option, the 30% employment requirement will be for the entire project including all the sub-contractors' employees:

Check all methods you will employ to secure Section 3 Residents/Persons

Posting the position in community sources that are generally available to low income residents and the general public is a standard requirement. **Check at least three (3) methods you will employ:**

- ☐ The local community newspaper
- ☐ The most widely distributed newspaper
- ☐ Company or agency website
- ☐ The management office of the local housing authority, or homeless service agency, or local low income housing community
- ☐ Local Workforce Board (i.e., Department of Labor)
- ☐ Local office of the Georgia Division of Family and Children Services
- ☐ Local office of the Georgia Department of Public Health
- ☐ Dodge Room http://www.construction.com/dodge/dodge.asp
- ☐ Other locations identified below and subject to DCA approval:

_____

_____

_____Initial here to confirm selection of this option

I anticipate my total number of employees for this contract to be____ and_____ will be qualified Section 3 Residents/persons.

Option 3

☐ A business claiming Section 3 status by subcontracting 25% of the dollar award to qualified Section 3 Business:

Attach a list of intended subcontract Section 3 business(es) with subcontract amount.

Attach certification & all supporting documentation for each planned subcontract Section 3 Business.

_____Initial here to confirm selection of this option

I am NOT Requesting Preference under Section 3:

☐ *I am **NOT** certifying as a qualified Section 3 Business Concern and I am not requesting a preference.* However ***if*** *I do trigger the regulation by doing any sub-contracting or hiring, I will comply by meeting all requirements of DCA's Section 3 policy and am* committing to do the outreach as specified below.

Check all methods you will employ to secure Section 3 Residents/Businesses

Posting the position/contract opportunity in community sources that are generally available to low income residents and Section 3 Businesses and the general public is a standard requirement. **Check at least three (3) methods you will employ:**

- ☐ The local community newspaper
- ☐ The most widely distributed newspaper
- ☐ Company or agency website
- ☐ The management office of the local housing authority, or homeless service agency, or local low income housing community
- ☐ Local Workforce Board (i.e., Department of Labor)
- ☐ Local office of the Georgia Division of Family and Children Services
- ☐ Local office of the Georgia Department of Public Health
- ☐ Dodge Room http://www.construction.com/dodge/dodge.asp
- ☐ Other locations identified below and subject to DCA approval:

_____

_____

_____Initial here to confirm selection of this option

Signature: _____

Printed/Typed Name:_____

Title:_____

Date:_____

Notarial Affadavit

Sworn to and subscribed before me this _____ day of _____, 20_____.

_____

Signature of Notary Public

_____

Printed Name of Notary Public

Commission Expiration Date: _____

(Notarial Seal)

Georgia Department of Community Affairs
Required Submittal - Previous Section 3 Compliance Certification

Name of Business: _____

Address of Business: _____

Type of Business (Check One): ☐ Corporation ☐ Partnership

☐ Sole Proprietorship ☐ Other

Business Activity: _____

All firms and individuals intending to do business with DCA, its subrecipients, or contractors **MUST** complete and submit this certification of prior compliance with their bid, offer, or proposal. Any solicitation response that does not include this document will be considered non-responsive and not eligible for award. Please check the appropriate line box below and sign and date the form.

1. I am certifying that I have complied with the HUD Section 3 Regulations, when triggered by new hiring or contracting opportunities, in my past contracts **when required** by the recipient, subrecipient or contractor by either:

i. Certifying as Resident Owned Business (ROB); or,
ii. Employing Section 3 residents for at least 30% of the newly hired workforce; or,
iii. Subcontracting 25% of the total dollar award to a qualified Section 3 Business; or,
iv. Hiring or contracting to the "greatest extent feasible" with Section 3 Residents or Section 3 Businesses.

☐ Check this box

2. I have never done any HUD funded contracting.

☐ Check this box

3. I completed HUD Section 3 covered contracts in the past three years but the regulation was not triggered because either there were no new hires on the contract(s) and/or I did not do any new contracting or subcontracting.

☐ Check this box

Signature: _____
Print Name: _____
Title: _____

Required Submittal - Assurance of Compliance Certification
Section 3 Action Plan
Housing and Urban Development Act of 1968
(12 U.S.C. 1701 U)

Contract/Solicitation Name or Number:

_____

DCA Funding Program:_____

Entity Receiving DCA Funding Award:_____

Purpose: To ensure that regulations promulgated under 24 CFR Part 135 Employment Opportunities for Businesses and Lower Income Persons in Connection with Assisted Projects and the Section 3 Policy of DCA, its subrecipients and contractors to the greatest extent feasible is adhered to, and to serve as the "assurance of compliance" certification and action plan as required in the bid documents, supplemental general conditions, and required forms for the contract for any HUD work funded by DCA.

Description of the project's work detail: The project work will be as listed in the final scope of work in the contract with DCA, its subrecipients and contractors including any change orders. List all known subcontractors below:

Subcontractor(s): _____

Subcontractor(s): _____

Subcontractor(s): _____

Subcontractor(s): _____

Subcontractor(s): _____

Subcontractor(s): _____

Subcontractor(s): _____

Subcontractor(s): _____

Use an additional sheet if required.

Note: If subcontractors are unknown at this time, print UNKNOWN on the line above. Also, the contractor must notify DCA or subrecipient if subcontractors are added or changed during the contract.

Any changes to this certification requires a resubmission of this form to DCA or subrecipient.

Preliminary Statement for Work Force Needs:

DCA intends to meet Section 3 compliance at the highest level and it is our intent to identify any short-term and long-term employment or contracting opportunities for qualified Section 3 persons and Business Concerns during the course of the contract funded by DCA via its subrecipients and contractors. Please list the status of all planned employment positions and opportunities for this contract. **Preference for all opportunities must be given to low and very low-income residents if they qualify. If awarded a contract,** regardless of whether your firm has elected a preference, **you are required to provide a list of your aggregate workforce on this project. Any changes to that workforce during the project will constitute NEW hires. You must notify DCA, its subrecipient or contractor (respectively) overseeing your contract of any new hire opportunities that arise during the life of your contract.** The a*nticipated workforce list may be provided on a separate sheet or in a different format.*

List All Employees	Date Hired	Section 3 Resident (Yes/No)	Job Title/Trade	Salary Range
Name: Address: City, ZIP:				
Name: Address: City, Zip Code:				
Name: Address: City, Zip Code:				
Name: Address: City, Zip Code:				

Use additional pages as needed.

"To the Greatest Extent Feasible":

The Contractor has identified ___ # of **OPEN** positions with respect to this contract. The positions are filled by the _____ (Position title) of the Contractor.

Should the scope of work or duties of the contractor change to a degree requiring a modification of the work force needs, the contractor shall put forth a reasonable effort to fill vacant positions with eligible Section 3 residents.

Documentation of "To the Greatest Extent Feasible":

The contractor will work with DCA, its subrecipients, and contractors staff to notify residents of any opportunities afforded under the contract. The contractor will partner with DCA, its subrecipients, and contractors by giving preference of any employment opportunities to the Section 3 persons or businesses.

The contractor shall recruit or attempt to recruit from the Section 3 area the necessary number of low-income and very low-income residents and Section 3 businesses, as applicable. The contractor must also document their recruiting efforts and any impediments to compliance with DCA's Section 3 policy and the requirements of this solicitation package. This documentation must be submitted to the recipient or sub-recipient.

1. DCA, its subrecipients and contractors shall: Maintain a list of all low-income area residents who have applied, either on their own or from referral from any source, and employ such person if otherwise eligible and if a trainee vacancy exists.
2. Conduct solicitation in accordance with DCA's Section 3 policy and the requirements outlined in the solicitation package.

The contractor shall review all employment applications and determine if low-income and very low-income residents or Section 3 businesses meet minimum hiring or contracting qualifications. If these applicants meet such minimum qualifications, but are not hired due to lack of employment opportunities or for other reasons, they will be placed on a priority list and offered positions/contracts upon the occurrence of the first available appropriate opening.

Utilization of Section 3 Businesses Located Within the County:

The subrecipient or contractor does ___ does not ___ intend to subcontract any of the work indentified in the scope of work cited in the bid specifications, scope of work or General Conditions. Should the scope of work or needs of the contractor change, the contractor shall, to the greatest extent feasible, assure that subcontracts be awarded to business concerns within the Section 3 covered area, or to business concerns owned in the substantial part (at least 51%) by persons residing in the Section 3 covered area.

Record Keeping:
The subrecipient, contractor or subcontractor, as applicable, shall maintain on file all records related to employment and job training of low-income and very low-income residents or other such records, advertisements, legal notices, brochures, flyers, publications, assurances of compliance from sub-contractors, etc, in connection with this contract. If a report is needed in the future, the subrecipient,

contractor or subcontractor, as applicable, agrees to provide all records upon request. The contractor shall, upon request, provide such records or copies of records to HUD, DCA, their subrecipients, contractors, staff, or agents. Records shall be maintained for at least three (3) years after the close of the contract.

Reports:
The subrecipient or contractor shall provide reports as required in connection with the contractor specifications. All certified and regular payrolls shall clearly detail which employees qualify under Section 3.

Certification:
The subrecipient or contractor will certify that any vacant employment positions, including training positions that filled:

1) After the subrecipient or contractor is selected but before the contract is executed, and
2) With persons other than those to who the regulations of 24 CFR Part 135 require employment opportunities to be directed, were not filled to circumvent the subcontractor's obligations under 24 CFR Part 135.

Grievance and Compliance:
The subrecipient, contractor or subcontractor hereby acknowledges that they understand that any low-income and very low-income resident of the project area, for him/her or as representatives of persons similarly situated, seeking employment or job training opportunities in the project area, or any eligible business concerns seeking contract opportunities may file a grievance if efforts to the greatest extent feasible were not executed. The grievance must be filed with HUD not later than one hundred eighty (180) calendar days from the date of the action (or omission) upon which the grievance is based.

I attest that the information on the preceding pages is true and correct.

_____ _____
Signature Date

_____
Print Name

_____
Title

RESIDENT SECTION 3 SELF-CERTIFICATION AND SKILLS DATA FORM

The purpose of this form is to comply with HUD Section 3 administration and certification regulations.

Certification for Section 3 Residents or other Low-Income Persons Seeking Employment, Training or Contracting

I, _____, am a legal resident of the United States and meet the income eligibility and federal guidelines for a Section 3 Resident as defined within this Certification.

My home address is: _____
Must be a **Street** address not a P O Box # Apt Number

_____
City State Zip Home # Cell #

_____
County of Residence

Graduated High School or GED (month/year): _____ I Read and Speak English Fluently: Yes or No

Attended College, Trade, or Technical School: Yes or No Graduated? Yes or No Year Graduated:_____

Check the Skills, Trades, and/or Professions in which you have been employed or contracted to do for others:

☐Drywall Hanging	☐Drywall Finishing	☐Interior Painting	☐Framing
☐HVAC	☐Electrical	☐Interior Plumbing	☐Exterior Plumbing
☐Siding	☐Cabinet Hanging	☐Door Replacement	☐Trim/Carpentry
☐Stucco	☐Window/Door Replacement	☐Construction Cleaning	☐Exterior Framing
☐Data Entry	☐Receptionist	☐ Sales	☐Telephone Customer Service
☐Administrative	☐Teaching/Training	☐Personal Care Aide	☐Landscaping
☐CDL License	☐Roofing	☐Concrete/Asphalt Work	☐Heavy Equipment Operator
☐Fencing	☐Metal/Steel Work	☐Welding	
☐Other		☐Other	

I am certifying as a Section 3 Resident**:** ☐ **Person seeking Training** **or** ☐ **Person seeking employment**

(Check all that apply):

☐ I am a public housing or section 8 Leaseholder ☐ I live in the service area

My total annual household income is $_____. There are a total of _____ people living in my household.

I certify that all of the information given on this Certification is true and correct. If found to be inaccurate, I understand that I may be disqualified as an applicant and/or a certified Section 3 individual which may be grounds for termination of training, employment, or contracts that resulted from this certification. I attest under penalty of perjury that my total household income annually, based on my total household size as listed above is at or below the income amount for that specific size at the time of this document is being signed and notarized. I understand that proof of this statement may be requested in the future.

_____ _____
Signature Date

Printed Name: _____

Purpose:
The purpose of Section 3 of the Housing and Urban Development of 1968 (12 U.S.C. 1701u) (Section 3) is to ensure that employment and other economic and business opportunities generated by HUD Financial Assistance shall be directed to the Authority Residents and other low- and very low-income persons, particularly those who are recipients of government housing assistance and to business concerns which provide economic opportunities to Residents and other low- and very low-income persons.

Section 3 resident means:

(1) A public housing resident; or

(2) An individual who resides in the metropolitan area or non-metropolitan county in which the section 3 covered assistance is expended, and who is:
   I. A low-income person, as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2)). Section 3(b)(2) of the 1937 Act defines this term to mean families (including single persons) whose incomes do not exceed 80% of the median family income for the area, as determined by the Secretary, with adjustments for smaller and larger families, except that the Secretary may establish income ceilings higher or lower than 80% of the median for the area on the basis of the Secretary's findings that such variations are necessary because of prevailing levels of construction costs or unusually high or low-income families; or

   II. A very low-income person, as this term is defined in section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2). Section 3(b)(2) of the 1937 Act (42 U.S.C. 1437a(b)(2) defines this term to mean families (including single persons) whose incomes do not exceed 50% of the median family income for the area, as determined by the Secretary with adjustments made for smaller or larger families, except that the Secretary may establish income ceilings higher or lower than 50% of the median for the area on the basis of the Secretary's findings that such variations are necessary because of unusually high or low family incomes.

(3) A person seeking the training and employment preference provided by section 3 bears the responsibility of providing evidence (if requested) that the person is eligible for the preference.

Service area means the geographical area in which the persons benefiting from the Section 3-covered project reside.

The figures below represent very low-income families; bottom figures represent low-income families. The most recent income limits established for each county may be found at:
http://www.hud.gov/offices/cpd/affordablehousing/programs/home/limits/income/.

Subrecipient or Contractor to Insert 2013 Income Limits for Project Location

FY 20XX Income Limit Area	Median Income	FY 20XX Income Limit Category	1 Person	2 Person	3 Person	4 Person	5 Person	6 Person	7 Person	8 Person
		Very Low (50%) Income Limits								
		Low (80%) Income Limits								

RESIDENT SECTION 3 SELF-CERTIFICATION
AND SKILLS DATA FORM
AFFADAVIT

STATE OF _____

County of _____

I, _____, a Notary Public of the City/County of _____, State of _____, do hereby certify that, _____, whose name is signed to the writing above bearing date on the _____ Day of _____, 20_____, has acknowledged the same before me in my State aforesaid.

Given under my hand and official seal, this the _____ day of _____, 20___.

_____
Signature of Notary Public

_____
Printed Name of Notary Public

Commission Expiration Date: _____

(Notarial Seal)

SECTION 3 BUSINESS CONCERN SELF CERTIFICATION

The Georgia Department of Community Affairs (DCA) is seeking to extend the benefits of and to promote compliance with Section 3 by identifying Section 3 Business Concerns and targeting Section 3 Business Concerns for business opportunities, events and educational programs.

In an effort to comply with Federal Section 3 Regulations which promote contract, employment and training opportunities for State of Georgia residents, DCA has instituted a Section 3 Self Certification process.

Businesses seeking certification must complete and submit the attached Section 3 Business Concern Self Certification forms as follow:

1. If your company is qualified because it is owned (51% or more) by one or more Section 3 residents, then complete **Form A, "Section 3 Business Concern – Resident Business Owner(s) Verification";**

   OR

2. If your company is qualified because 30% or more of its full time permanent workforce are Section 3 Residents*, then complete **Form B, "Section 3 Business Concern – 30% + Workforce".**

   OR

3. If more than 25% of all subcontract work to be awarded shall be performed by Section 3 business concerns as described above, then complete **Form C, "Section 3 Business Concern-Subcontractor".**

Please answer all questions, sign the completed forms, and notarize the affidavit.

Completed packets must be returned to the subrecipient or contractor as follows:

Name of subrecipient/contractor: _____
Attn: _____
Mailing Address: _____
_____

If you have any questions or require assistance, please contact:

Name: _____
Phone Number: _____
Email Address: _____

Form A
SECTION 3 BUSINESS CONCERN
Resident Business Owner(s) Verification

A business can be certified as a Section 3 Business Concern if the business is owned (51% or more) by Georgia Section 3 Resident(s).

Name of Owner: _____

Home Street Address: _____

Home City, County, & Zip Code:_____

Name of Business: _____

Percentage of Ownership: _____%

Low- to – Moderate Income (80% of Median)
Check the appropriate box for your family size and income *if your total household income is equal to or less than the Gross Household Income Maximum amount listed for your appropriate household size*:

Check Box	# of Persons in Household	Gross Household Income Maximum
	1 Individual	
	2 Individuals	
	3 Individuals	
	4 Individuals	
	5 Individuals	
	6 Individuals	
	7 Individuals	
	8 Individuals	

(Effective _____, 2013)

If the business is owned by more than one Section 3 resident, list each owner below and each should submit a separate Resident Business Owner Verification Form (Form A).

Please list additional Section 3 Resident owners of the business below:

Name	Position	% Percentage of Ownership

I certify that I am a resident of the State of Georgia and my total household income last year was not more than the amount shown above for my family size. I further certify the information provided is true and accurate and agree to provide upon request, documents verifying the information submitted to qualify as a Section 3 Business Concern.

Print: _____ Signature: _____ Date: _____

Form B

SECTION 3 BUSINESS CONCERN

30% + Workforce

A business can be certified as a Section 3 Business Concern if at least 30% of its permanent, full-time employees are Section 3 residents, or were Section 3 residents within three years of the date of the first employment with the business. You may also certify as a Section 3 Business Concern if, for this award, you will hire Section 3 residents for at least 30% of your permanent, full-time employees for this specific project. For your firm to be eligible UNDER THIS CRITERIA, you must provide the following information for **all permanent, full-time employees.**

You may attach additional copies of this chart, if necessary.

List All Employees	**Date Hired**	**Section 3 Resident**	**Job Title/Trade**	**Salary Range**
Name: Address: City/Zip:				
Name: Address: City/Zip:				
Name: Address: City/Zip:				
Name: Address: City/Zip:				
Name: Address: City/Zip:				
Total Number of Employees:	**Full-Time:** _____	**Part-Time:** _____	**Contract:** _____	
Number of Section 3 Residents:				
Section 3 % of Total Workforce:				

I certify that the information provided is true and accurate and agree to provide upon request, any/all documents verifying the information submitted to qualify as a Section 3 Business Concern.

Print Name: _____

Title: _____

Company Name: _____

Signature: _____

Date: _____

Form C
SECTION 3 BUSINESS CONCERN
Subcontractor Awarded

A business can be certified as a Section 3 Business Concern if the firm makes a commitment to subcontract in excess of twenty-five percent (25%) of the total amount of subcontracts to be awarded to: A) Section 3 Resident Owned Businesses; or B) Businesses for which 30% or more of their permanent full-time workforce is comprised of Section 3 Residents.

List all work performed by Section 3 Business Concerns Identified (This Form is to be updated as Section 3 Business Concerns are awarded through the completion of the project):

Name of Business	Qualifying Conditions	Total Contract Award

All identified Section 3 Business Concerns listed above are required to complete a Section 3 Self Certification Application (Forms A – C as appropriate) or provide proof of Section 3 Certification status. Attach all required documents to this form.

I certify that the information provided is true and accurate and agree to provide upon request, any/all documents verifying the information submitted to qualify as a Section 3 business concern.

Print Name: _____

Title: _____

Company Name: _____

Signature: _____

Date: _____

SECTION 01010
SUMMARY OF WORK

1 GENERAL

1.1 SCOPE OF WORK

A. The work to be performed under this Contract shall include furnishing all labor, materials, equipment, services, coordination and supervision necessary for furnishing and installing approximately 525 linear feet of 8-inch water main, approximately 700 linear feet of 2-inch Municipex polyethylene pipe, and all appurtenances as shown on the Drawings and described in the contract documents to make a complete and operable installation. The new water lines will replace an existing 2-inch galvanized steel water line in and around Millbrook Circle. The work shall include all construction surveying and staking, erosion control, clearing, trenching, boring, excavation, pipe installation, backfilling, flushing, testing and disinfection of pipes, property restoration, as-built staking, pavement resurfacing, and all provisions necessary to protect and maintain adjoining property and other utilities in the vicinity of the work.

B. All standard specifications and test designations herein refer to the revision of those standards in effect on the date of issue of the Contract Documents, except when a specific revision is specified.

C. Contractor shall be responsible for performing construction staking utilizing information shown on the drawings.

D. The Owner reserves the right to increase or decrease the quantities of work to be performed or to extend or shorten the improvements at any time when and as found necessary, and the Contractor shall perform the work as altered, increased or decreased. Payment for such increased or decreased quantity will be made in accordance with Contract provisions. No allowance will be made for any change in anticipated profits nor shall such changes be considered as waiving or invalidating any conditions or provisions of the Contract and Bond.

** END OF SECTION **

SECTION 01020
ALLOWANCES

1 GENERAL

1.1 DESCRIPTION

A. The Contractor shall include in his bid proposal the allowance amount(s) listed below:

1. The allowance(s) shall cover work, manufactured equipment or services that will be provided either by the Contractor or by others who may be selected by the Owner. All work performed under allowance(s) shall be subject to Owner approval, and under special terms described herein.

2. Authorized work that is performed by others and paid for under Allowances is considered to be subcontract work to the Contractor. Therefore, in accordance with General Conditions of the Contract, actual payment to the Contractor will be actual cost of the subcontractor's charges plus a fee equal to five percent of subcontractor's charges.

3. In cases where the Contractor performs work that is authorized to be paid from Allowances, the payment will be determined in the same fashion as Change Order work in accordance with General Conditions of the Contract which stipulates payment as either unit price, or lump sum or cost plus a fee.

2 SCHEDULE OF ALLOWANCES

2.1 CONTINGENCY ALLOWANCE

A. The Contractor's Total Base Bid Price includes an allowance of Ten Thousand Dollars ($10,000.00) to cover unspecified contingencies that are not otherwise covered in the bid proposal. Work to be paid from this Allowance may be identified during the course of the project.

** END OF SECTION **

SECTION 01050
CONSTRUCTION SURVEYING AND ENGINEERING

1 GENERAL

1.1 SCOPE OF WORK

A. Contractor's surveying and engineering responsibilities during the construction phase shall include the following:

1. Field surveying and engineering services required to supplement Contract Documents during construction of the Project. The Contractor shall employ qualified personnel acceptable to the Engineer to provide construction staking and shall furnish documentation confirming that staking is being performed to the lines and grades shown in the Contract Documents. Construction staking will include all the surveying work required to lay out the work and control the location, elevation and position of the finished construction in accordance with the contract documents. Contractor's surveyor shall maintain a complete, accurate log of all control and survey work as it progresses, and shall periodically furnish copies of same to Engineer as the work progresses.
2. Civil, structural or other professional engineering services specified, or required to execute Contractor's construction methods.
3. The contractor shall locate and protect control points prior to starting site work, and preserve all permanent reference points during construction. Contractor's surveyor shall replace any control points that are lost or destroyed during construction.
4. Contractor shall place a vertical piece of 2-inch pipe on top of the new pipe at all tees, bends, fittings, elevation transitions, and every 50 feet along the pipeline for the purpose of collecting elevation data for record drawings. Both ends of the pipe shall be capped or taped prior to installation to prevent dirt and other debris from clogging the 2-inch pipe before the depth can be measured. Pipe shall be installed plumb and shall extend a minimum of 12-inches above finished grade. Contractor shall write a description of the part that is being marked (i.e. T.O.P. (Top of Pipe), H 90 BEND (Horizontal 90° Bend), etc.). If water main is in the pavement, offset stakes shall be set behind the back-of-curb and labeled with the offset distance and the depth of cover. At the end of the project, the contractor shall survey the actual location of the pipe in state plane coordinates and provide information to Engineer. Additionally, Contractor shall allow Engineer to also survey the pipe. After survey is complete, Contractor shall remove pipes or cut pipes off below grade and restore surface.
5. As-built plans of all construction shall be maintained by the Contractor and delivered to the Engineer at the completion of construction in a form that is acceptable to the Owner. As-built plans shall include horizontal distance from the edge of pavement to the centerline of the water main, depth from the finished grade to the top of the water main, and horizontal distance from a fixed point at the intersection of the edge of pavement and the catch basin near STA 0+00. Distance and depth shall be measured and recorded at maximum fifty (50) foot intervals along the entire route of the water main and at every fitting/change in direction along the entire route of the water main.

B. Owner's responsibilities during the construction phase shall include the following:

1. The Owner will furnish Contract Documents including plan drawings with sufficient detail and geometric references to allow the Contractor to accurately construct the work.

** END OF SECTION **

SECTION 01150
MEASUREMENT AND PAYMENT

1 GENERAL

1.1 SCOPE OF WORK

A. Work includes furnishing, installing and testing all labor, equipment, tools and materials, and performing all operations required to complete the work satisfactorily, in place, as necessary for a complete, warranted and fully functional water main project as indicated on the drawings and specified herein.

1.2 MEASUREMENT AND PAYMENT

A. The Bid Proposal lists each item of work for which payment will be made. No payment will be made for any items other than those listed in the Bid Proposal. Required items of work and incidentals necessary for the satisfactory completion of the Project which are not specifically listed in the Bid Proposal, and which are not specified in this Section to be measured or to be included in one of the items listed in the Bid Proposal, shall be considered as incidental to the work. All costs thereof, including Contractor's overhead costs and profit, shall be considered as included in the lump sum or unit prices bid for the various Bid Proposal items. The Contractor shall prepare the Bid Proposal accordingly.

B. Periodic payment for unit price items will be based on periodic measurements of actual work completed multiplied by the unit price. For lump sum bid items, estimates of percentage complete established by an approved schedule shall be the basis by which payments will be authorized. Measurements and estimates shall be submitted by the Contractor and shall be subject to approval by the Engineer. Contractor shall make certain all work has been measured before concealing.

C. Any portion of work that, in the opinion of the Engineer, does not meet the requirements of the contract will not be considered for payment.

1.3 PAY ITEMS

A. Ductile Iron Pipe for Water Mains

1. Ductile iron pipe for water mains will be measured in length above the center of the pipe, parallel to the slope from end to end without deduction for valves and fittings. Payment will be at the bid unit price per linear foot for each size of pipe listed in the Bid Form. Unit price shall include construction staking, clearing and grubbing, excavation (except rock excavation), dewatering, bedding material, backfilling, clean up, property restoration, pressure testing, flushing, disinfection, post construction surveying and all other items necessary to complete the project that are not covered under another pay item.

B. Ductile Iron Fittings

1. Ductile iron fittings that are not specified for payment under another bid item will be counted in place and paid for at the bid unit price per pound listed in the Bid Form. Weight of fittings for payment purposes will be taken as the nominal weight in pounds from manufacturer's catalog for compact style fittings of the type specified at each location, not including joint accessories.

C. Restrained Joint Gaskets

1. Restrained joint gaskets used on push-on joint pipe will be counted in place and paid at the bid unit price for each size listed in the Bid Form. Regular push-on joint gaskets will not be paid for separately and shall be included in the cost of the pipe.

D. Restrained Joint Glands

1. Restrained joint glands used on mechanical joint ductile iron fittings will be counted in place and paid at the bid unit price for each size listed in the Bid Form. Flanged joints and swivel joints are not counted for payment as restrained joints.

E. Crosslinked Polyethylene Pipe for Water Mains

1. Crosslinked polyethylene pipe for water mains will be measured in length above the center of the pipe, parallel to the slope from end to end without deduction for valves and fittings. Payment will be at the bid unit price per linear foot for each size of pipe listed in the Bid Form. Unit price shall include construction staking, clearing and grubbing, excavation (except rock excavation), dewatering, bedding material, backfilling, miscellaneous fittings required for the polyethylene pipe, tracer wire, clean up, property restoration, pressure testing, flushing, disinfection, and post construction surveying.

F. Steel Casing, Bore and Jack Installation

1. Steel casing, bore and jack installation will be measured in length above the center of the casing pipe, parallel to the slope from end to end. Payment will be at the bid unit price per linear foot for each size of casing pipe listed in the Bid Form. Unit price shall include all labor, tools, equipment (including dewatering, if required), casing pipe, wooden skids, casing spacers, brick bulkheads, sealing of casing pipe ends, and all other incidentals required to install the casing pipe and carrier pipe via the bore and jack method. The ductile iron pipe that will be installed in the steel casing pipe will be paid separately under Ductile Iron Pipe for Water Mains.

G. PVC Casing, Bore and Jack installation

1. PVC casing, bore and jack installation will be measured in length above the center of the casing pipe, parallel to the slope from end to end. Payment will be at the bid unit price per linear foot for each size of casing pipe listed in the Bid Form. Unit price shall include all labor, tools, equipment (including dewatering, if required), casing pipe, sealing of casing pipe ends, and all other incidentals required to install the casing pipe and carrier pipe via the bore and jack method. The polyethylene pipe that will be installed in the PVC casing pipe will be paid separately under Crosslinked Polyethylene Pipe for Water Mains.

H. Uncased Jack and Bore

1. Uncased bores will be measured in length above the center of the bore hole, parallel to the slope from beginning of bore to end of bore. Payment will be made at the bid unit price per linear foot for each size of pipe listed in the Bid Form. Unit price shall be full compensation for all labor, tools, equipment (including dewatering if required), and incidental materials necessary to bore and install pipe. The pipe that will be installed in the bore hole will be paid for separately under the appropriate bid item. Bore lengths longer than those shown on the drawings shall be approved by the Owner prior to performing work. If lengths are not approved prior to performing work, the maximum length approved for payment will be the length shown on the drawings.

I. Tapping Sleeve and Valve

1. Tapping sleeves with valves will be counted in place and paid for at the bid unit price for each size tapping sleeve listed in the Bid Form. Unit price shall include all excavation, installation, testing, and all necessary incidentals to complete the work. The cost for the tapping sleeve, valve, valve box, concrete collar, operator, stone, and all other necessary incidentals to complete the work shall be included in the unit price. Wet tap, restrained joint glands, and concrete thrust block will be paid for separately under the corresponding bid items.

J. Tapping Saddle and Corporation Stop

1. Tapping saddles and corporation stops not used for service connections will be counted in place and paid for at the bid unit price for each size listed in the Bid Form. Unit price shall include all excavation, installation, testing, wet tapping into existing water main, and all necessary incidentals to complete the work. The cost for the tapping saddle, corporation stop and all other necessary incidentals to complete the work shall be included in the unit price.

K. Wet Tap

1. Wet taps will be counted in place and paid for at the bid unit price listed in the Bid Form. Unit price shall include all labor, tools, equipment, materials, and all necessary incidentals required to complete the work.

L. Gate Valve Assembly

1. Gate valve assemblies will be counted in place and paid for at the bid unit price for each size listed in the Bid Form. Unit price shall include all labor, tools, equipment, materials, and all necessary incidentals required to complete the work. The cost for gate valve, valve box, concrete collar, operator, stone, installation, and all other necessary incidentals to complete the work shall be included in the unit price. Restrained joint glands will be paid for separately under the corresponding bid item.

M. Concrete Valve Marker

1. Valve Markers will be counted in place and paid for at the bid unit price listed in the Bid Form. Unit price shall include all items necessary for the installation of the valve marker.

N. Abandon Existing Valve

1. This item shall cover all work related to the abandonment of an existing valve. Abandoned valves will be counted and paid for at the bid unit price listed in the Bid Form. Unit price bid shall include all labor, tools, equipment, materials, and all necessary incidentals required to abandon the valve. Abandonment of the valve shall include, but not be limited to, excavating and removing the valve box and valve pad and backfilling and compacting the void. Valve boxes and covers shall be returned to the City of Roswell.

O. Connect Existing Service to New Water Main – Short Side

1. This item shall cover all work related to connecting an existing water service to the new water main where the water meter is located on the same side of the road as the water main. Service connections will be counted and paid for at the bid unit price listed in the Bid Form. Unit price bid shall include all labor, tools, equipment, material, including service saddle, valves, fittings, and copper tubing, and all necessary incidentals required to connect the existing service to the new water main.

P. Connect Existing Service to New Water Main – Long Side

1. This item shall cover all work related to connecting an existing water service to the new water main where the water meter is located on the opposite side of the road from the water main. Service connections will be counted and paid for at the bid unit price listed in the Bid Form. The price bid shall include all labor, tools, equipment, material, including service saddle, valves, fittings, and copper tubing, and all necessary incidentals required to bore under the roadway, install PVC casing pipe, run service line in casing pipe, connect the existing service to the new water main, and all other necessary incidentals required to connect the existing service to the new water main.

Q. Relocate Water Meter

1. This item shall cover all work related to relocating an existing water meter to a new location. Relocation of a water meter will be counted and paid for at the bid unit price listed in the Bid Form. Unit price bid shall include all labor, tools, equipment, material, and all necessary incidentals required to relocate the meter and reconnect the service line.

R. New Water Meter

1. This item shall cover all work related to installing new water meters. Installation of new water meters will be counted and paid for at the bid unit price listed in the Bid Form. Unit price bid shall include all labor, tools, equipment, material, valve boxes, valves,

fittings, copper tubing, and all necessary incidentals required to install water meters. Water meter will be provided by Owner.

S. Fire Hydrant Assembly

1. Fire hydrant assemblies will be counted in place and paid for at the bid unit price listed in the Bid Form. Unit price shall include all labor, tools, equipment, material, and all necessary incidentals required to complete the work. The cost for the hydrant tee, gate valve, valve box, concrete collar, operator, anchor coupling, tie rods and hardware, fire hydrant, stone, and all other necessary materials to complete the work shall be included in the unit price. Restrained joint glands and concrete thrust block will be paid for separately under the corresponding bid item.

T. Asphalt Mill and Resurface

1. This item covers milling 1½-inch of existing asphalt, hauling and disposing of milled asphalt, resurfacing with 1½-inch of asphalt, restriping, and all necessary incidentals required to complete the work. Measurement of this item will be calculated according to the surface area (length x width) installed. Milling and resurfacing beyond the extents shown on the drawings must be approved by the Owner. Payment will be made at the bid unit price per square foot listed in the Bid Form. Unit price shall include all labor, tools, equipment, and materials required to perform the work.

U. Asphalt Patch

1. This item covers the installation of a 1½-inch thick asphalt patch over a concrete trench cap and restriping (if required). Measurement of this item will be calculated according to the surface area (length x width) installed. Installation of asphalt patch beyond the extents shown on the drawings must be approved by the Owner. Payment will be at the bid unit price per square foot listed in the Bid Form. Unit price shall include all labor, tools, equipment, and materials required to perform the work.

V. Concrete Thrust Block

1. This item covers the installation of concrete required for blocking at pipe fittings, including reinforcing steel where indicated on drawings. Measurement of this item will be based on the volume of concrete listed in the drawings for the pipe size the concrete thrust block is being placed on. Use of additional concrete beyond the volumes shown on the drawings must be approved by the Owner. Payment will be at the bid unit price per cubic yard listed in the Bid Form. Unit price shall include all labor, tools, equipment, and materials required to perform the work.

W. Concrete Thrust Collar (Deadman)

1. This item covers the installation of a concrete thrust collar (deadman), including reinforcing steel and thrust collar or restrained joint gland, where indicated on the drawings. Concrete thrust collars will be counted in place for the pipe size the collar is placed on. Payment will be made at the bid unit price for each size listed in the Bid Form. Unit price shall include all labor, tools, equipment, and materials required to perform the work.

X. Curb and Gutter Replacement

1. This item shall cover all work related to removing and replacing curb and gutter. Measurement of this item will be based on the length of curb and gutter replaced. Installation of curb and gutter beyond the lengths shown on the drawings must be approved by the Owner. Payment will be made at the bid unit price per linear foot listed in the Bid Form. Unit price shall include all labor, tools, equipment, and materials, including saw-cutting, demolition and disposal of existing concrete, new concrete, and all necessary incidentals, required to perform the work.

Y. Concrete Trench Cap

1. This item covers the installation of an 8-inch thick concrete trench cap required for capping trench cuts made in the street. Measurement of this item will be calculated according to the surface area (length x width) installed. Installation of concrete trench

cap beyond the extents shown on the drawings must be approved by the Owner. Payment will be at the bid unit price per square foot listed in the Bid Form. Unit price shall include all labor, tools, equipment, and materials required to perform the work.

Z. Silt Fence – Sd1-C

1. Temporary silt fence will be measured in place after installation and will be paid for at the unit bid price per linear foot listed in the Bid Form. Silt fence that is installed in an ineffective manner or at other than required locations will not be measured for payment. Unit price shall be full compensation for all material, labor, tools and equipment necessary to install, maintain and remove the temporary silt fence as specified in the contract documents. Silt fence will only be measured for payment once.

AA. Gravel Bags – Sd2-P

1. Gravel bags (19"x28") for curb inlet filters will be counted in place and paid for at the unit bid price listed in the Bid Form. Unit price shall be full compensation for all material, labor, tools and equipment necessary to install, maintain and remove curb inlet filters as specified in the contract documents. Curb inlet filters will only be counted for payment once.

BB. Matting – Mb

1. The lump sum price for matting shall include all material, labor, tools and equipment necessary to install and maintain matting for erosion and sediment control. Matting will be paid on a prorated basis using the length of pipe installed in areas requiring matting compared to the total length of pipe in areas requiring matting.

CC. Permanent Grassing – Ds4

1. The lump sum price for permanent grassing shall include all material, labor, tools and equipment necessary to install and establish sod grass. Permanent grassing will be paid on a prorated basis using the length of pipe installed in areas requiring permanent grassing compared to the total length of pipe in areas requiring permanent grassing.

DD. Traffic Control

1. This item covers all work related to traffic control required to complete the work. The cost to prepare a traffic control plan shall be included in this cost. Traffic control will be paid on a prorated basis at the lump sum price listed in the Bid Form.

EE. Rock Excavation Allowance

1. Payment for rock excavation, as defined in the contract documents, will be at the unit price per cubic yard listed in the Bid Form. The payment quantity shall be computed by multiplying the length of rock excavation measured along the centerline of the pipe, times the average depth of rock excavation, times the width equal to the nominal diameter of the pipe plus 2 feet. The unit price of this item includes drilling, blasting, blast surveying and monitoring, removal, hauling and disposing of rock and supplying and placing backfill material. Rock must be measured by the Engineer. Contractor must uncover all rock for measurement prior to blasting for measurement by the engineer.

FF. Contingency Allowances

1. The Bid Form includes a pre-set allowance for this item, which may be authorized to cover work described in Section 01020 of the Technical Specifications.

** END OF SECTION **

SECTION 01340
SUBMITTALS

1 GENERAL

1.1 SCOPE OF WORK

A. Contractor shall submit to Engineer a listing of all proposed submittals, and shall submit shop drawings, product data, samples and other submittals required by the Contract Documents.

B. Contractor shall designate in the construction schedule, or in a separate coordinated schedule, the dates for submission and the dates that reviewed shop drawings, product data and samples will be needed.

1.2 ENGINEER'S REVIEW

A. Engineer's review is only for general conformance with the design concept for the project and general compliance with the Contract Documents. Review by the Engineer does not relieve the Contractor of responsibility for compliance with the requirements of plans and specifications. Contractor is responsible for confirming that dimensions shown on submittals conform to project requirements, and for coordination of work by various trades. Submittals reviewed by Engineer will be marked as follows:

1. "No Exceptions Noted" - Indicates the drawings have been reviewed for conformance with the contract documents and no exceptions have been taken. Proceed with the work.
2. "Furnish as Noted" - Indicates the drawings have been reviewed for conformance with the contract documents and work may proceed in accordance with all comments. Resubmittal will not be required.
3. "Revise and Resubmit" - Indicates the drawings have been reviewed for conformance with the contract documents, and work may not proceed. After items to which exceptions have been taken are corrected, Contractor shall again submit copies for review.
4. "Rejected" - Indicates the drawings have been reviewed for conformance with the contract documents and are too incomplete or in an unacceptable condition for review. A notation will be made on the shop drawings as to the exceptions taken. Drawings shall be revised and resubmitted for review before proceeding with the work.
5. "Submit Specified Item" - Indicates that one or more items in the submittal were missing or incomplete. Work may commence on any items to which no exceptions were taken; missing or incomplete items must be submitted as noted.

1.3 PRODUCT DATA

A. Preparation:

1. Clearly mark shop drawing submittal to identify pertinent products or models.
2. Show performance characteristics and capacities.
3. Show dimensions and clearances required.
4. Show wiring or piping diagrams and controls.

B. Manufacturer's standard schematic drawings and diagrams:

1. Modify drawings and diagrams to delete information, which is not applicable to the work.
2. Supplement standard information to provide information specifically applicable to the work.

1.4 SAMPLES

A. Office samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of the product, with integrally related parts and attachment devices.
2. Full range of color, texture and pattern.

1.5 CONTRACTOR RESPONSIBILITIES

A. Review shop drawings, product data and samples prior to submission. No shop drawings or submittals will be accepted for review by Engineer until after Contractor has reviewed, marked and stamped same as meeting Contractor's approval. The Contractor (or his suppliers) are responsible for identifying and furnishing, at no additional cost to Owner, all accessories, incidentals and services that may be necessary for a complete and functional system whether or not such accessories, incidentals and services are show on the contract drawings

B. Determine and verify:

1. Field measurements.
2. Field construction criteria.
3. Catalog numbers and similar data.
4. Conformance with specifications.

C. Coordinate each submittal with requirements of the work and of the contract documents.

D. Notify the Engineer in writing, at time of submission, of any deviations in the submittals from requirements of the contract documents.

E. Begin no fabrication or work that requires submittals until return of submittals with Engineer approval.

1.6 SUBMISSION REQUIREMENTS

A. Make submittals promptly in accordance with approved schedule, and in such sequence as to cause no delay in the work or in the work of any other contractor.

B. Submittals shall be submitted electronically to the Engineer in portable document format (PDF).

C. Submittals shall contain:

1. The date of submission and the dates of any previous submissions.
2. The project title and number.
3. Contract identification.
4. The names of:
   a. Contractor.
   b. Supplier.
   c. Manufacturer.
5. Identification of the product, with the specification section number.
6. Field dimensions, clearly identified as such.
7. Relation to adjacent or critical features of the work or materials.
8. Applicable standards, such as ASTM or Federal Specifications numbers.
9. Identification of deviations from contract documents.
10. Identification of revisions on resubmittals.
11. An 8"x3" blank space for Contractor and Engineer stamps.
12. Contractor's stamp, initialed or signed, certifying his review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of Contract Documents.

1.7 RESUBMISSION REQUIREMENTS

A. Make any corrections or changes in the submittals required by the Engineer and resubmit until approved.

** END OF SECTION **

SECTION 01410
QUALITY CONTROL

1 GENERAL

1.1 GENERAL

A. The Contractor is responsible for controlling the quality of the Work, including Work performed by Subcontractors. The Contractor is also responsible for assuring that suppliers and manufacturers providing materials and products to be incorporated into the Work satisfy contract requirements.

B. The Contractor shall ensure that materials and equipment conform to specified requirements.

C. The Contractor shall comply with manufacturer's instructions regarding materials and/or equipment movement, storage, installation, testing, startup, and operation.

1.2 TESTING

A. The Contractor shall pay for all testing required for the project including, but not limited to, materials and field testing for cast-in-place concrete, earthwork, and paving.

1.3 MANUFACTURER REVIEW

A. When specified, the Contractor shall arrange for and provide on-site technical assistance from manufacturers of equipment or systems. This representative shall be fully qualified to inspect and test the installation; supervise any modifications to the installation; certify in writing that the installation has been properly completed; make adjustments for optimal performance; startup or supervise startup; provide operation and maintenance training to Owner personnel.

** END OF SECTION **

SECTION 01500
TEMPORARY UTILITIES

1 GENERAL

1.1 GENERAL REQUIREMENTS

A. The Contractor shall provide temporary light and power, heating, water service and sanitary facilities for his operations and for the construction operations of the Contractor's subcontractors at the site. The temporary services shall be provided for use throughout the construction period.

B. The Contractor shall coordinate and install all temporary services in accordance with the requirements of the utility companies having jurisdiction and as required by applicable codes and regulations.

C. At the completion of the work, or when the temporary services are no longer required, the facilities shall be restored to their original conditions by the Contractor.

D. All costs in connection with the temporary services including, but not limited to, installation, utility company service charges, maintenance, relocation, and removal shall be borne by the Contractor at no additional cost to the Owner.

E. Some temporary facilities that may be required may be indicated on the Drawings; however, the Drawings do not necessarily show any or all of the temporary facilities that the Contractor ultimately uses to complete the work.

F. Contractor shall not be allowed to use any of the existing facilities or utilities.

G. Cost for temporary utilities shall be included in the unit cost for the pipe.

1.2 TEMPORARY UTILITIES

A. Temporary Power and Light

1. If required, the Contractor shall provide temporary power facilities required for the proper prosecution and inspection of the work. These facilities shall be installed and maintained by the Contractor, and shall be located in such a manner as to result in the least interference with work upon the project site. Temporary power facilities shall remain in place after completion of construction until final acceptance of the work. After final acceptance of the work, the Contractor shall remove temporary power facilities.

2. If required, the Contractor shall provide temporary lighting facilities for the proper prosecution and inspection of the work. These facilities shall be installed and maintained by the Contractor and shall be located in such a manner as to result in the least interference with work upon the project site and existing facilities.

3. The Contractor shall make all necessary arrangements, and pay for all permits, inspections, and power company charges for all temporary service installations. Upon completion of the work, but prior to acceptance by the Owner, the Contractor shall remove all temporary services.

B. Temporary Water

1. The Contractor shall make the necessary arrangements for securing and transporting all water required in the construction, including water required for mixing of concrete, sprinkling, testing, flushing, flooding, jetting, sanitary facilities, field offices, or cleaning, and including any temporary pipeline or equipment which may be necessary to make use of such water.

2. Water service shall be protected from freezing and the service shall be extended and relocated as necessary to meet temporary water requirements.

C. Potable Water

1. The Contractor shall be responsible for furnishing a supply of potable drinking water for employees, subcontractors, inspectors, Engineers and the Owner who are associated with the work progress.

D. Sanitary Facilities

1. The Contractor shall provide sufficient sanitary facilities in proximity to the areas of work for his employees and those employees of his subcontractors. The Contractor will be responsible for continual maintenance and servicing of these facilities.

E. First-Aid Facilities

1. Contractor shall provide a suitable first aid station, equipped with all facilities and medical supplies to administer emergency first aid treatment. The Contractor shall have standing arrangements and a written protocol, a copy of which is to be posted at a central location for ease of observation, for the removal and hospital treatment of any injured person.

** END OF SECTION **

SECTION 01700
CONTRACT CLOSEOUT

1 GENERAL

1.1 GENERAL

A. Comply with requirements stated in the General Conditions and in specifications for administrative procedures in closing out the work.

1.2 SUBSTANTIAL COMPLETION

A. When contractor considers the work is substantially complete, he shall submit to Engineer:

1. A written notice that the work, or designated portion thereof, is substantially complete.
2. A list of items to be completed or corrected.

B. Within a reasonable time after receipt of such notice, the Engineer will make a construction review to determine the status of completion.

C. If Engineer determines that the work is not substantially complete, Engineer will promptly notify the contractor in writing giving the reasons for this determination. Contractor shall then remedy the deficiencies in the work, and send a second written notice of substantial completion to the Engineer. Engineer will again review the work for completion status.

D. When the Engineer finds that the work is substantially complete, he will prepare and deliver to Owner a tentative certificate of Substantial Completion with a tentative list of items to be completed or corrected before final payment.

1.3 FINAL CONSTRUCTION REVIEW

A. When Contractor considers the work is complete, he shall submit written certification that:

1. Work has been reviewed for substantial compliance with contract documents.
2. Work has been completed generally in accordance with contract documents.
3. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
4. Work is completed and ready for final construction review.

B. Engineer will perform a review to verify the status of completion with reasonable promptness after receipt of such certification.

C. If Engineer determines that the work is incomplete or defective, he will promptly notify the Contractor in writing, listing the incomplete or defective work. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Engineer that the work is complete. Engineer will again review the work.

D. When the Engineer finds that the work is acceptable under the contract documents, he shall request the contractor to make closeout submittals.

1.4 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

A. Evidence of Payment and Release of Liens: To requirements of General and Supplementary Conditions.

B. Certificate of Insurance for Products and Completed Operation.

C. Record Drawings with annotations made by the contractor during construction of the work.

1.5 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a final pay request to the Engineer reflecting the original Contract Sum and any additions and deductions resulting from change orders and allowances.

** END OF SECTION **

SECTION 01720
RECORD DOCUMENTS

1 GENERAL

1.1 SCOPE

A. The work under this Section includes, but is not necessarily limited to, the compiling, maintaining, recording and submitting of project record documents as herein specified.

B. Record documents to be prepared and submitted by the Contractor include, but are not limited to:

1. As-built drawings
2. Change orders and other modifications to the Contract
3. Engineer field orders or written instructions, including Requests for Information (RFI) and Clarification Memorandums
4. Reviewed shop drawings, product data and samples
5. Test records
6. Survey data

C. The Contractor shall maintain on the Project site throughout the Contract Time an up-to-date set of Record Drawings.

1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Storage

1. Store documents and samples in the Contractor's field office, apart from documents used for construction.
2. Provide files and racks for storage of documents.
3. Provide locked cabinet or secure storage space for storage of samples.

B. File documents and samples in accordance with format of these Specifications.

C. Maintenance

1. Maintain documents in a clean, dry, legible condition and in good order.
2. Do not use record documents for construction purposes.
3. Maintain at the site for the Local Governing Authority one copy of all record documents.

D. Make documents and samples available at all times for inspection by Engineer.

E. Failure to maintain the Record Documents in a satisfactory manner may be cause for withholding of a certificate for payment.

1.3 QUALITY ASSURANCE

A. Unless noted otherwise, Record Drawings shall provide elevations, dimensions, distances and coordinates to the nearest 0.01 foot.

1.4 SUBMITTAL

A. At contract closeout, deliver Record Documents to the Engineer.

B. Accompany submittal with transmittal letter, in duplicate, containing:

1. Date
2. Project title and number
3. Contractor's name and address
4. Title and number of each record document
5. Signature of Contractor or Contractor's authorized representative

2 PRODUCTS (NOT USED)

3 EXECUTION

3.1 AS-BUILT STAKING

A. The Contractor shall install temporary marks as described herein that will be used by Owner or Engineer to perform a survey of the completed water main.

B. Contractor shall place a vertical piece of 2-inch pipe on top of the new pipe at all tees, bends, fittings, elevation transitions, and every 50 feet along the pipeline for the purpose of collecting elevation data for record drawings. Both ends of the pipe shall be capped or taped prior to installation to prevent dirt and other debris from clogging the 2-inch pipe before the depth can be measured. Pipe shall be installed plumb and shall extend a minimum of 12-inches above finished grade. Contractor shall write a description of the part that is being marked (i.e. T.O.P. (Top of Pipe), H 90 BEND (Horizontal 90° Bend), etc.). If water main is in the pavement, offset stakes shall be set behind the back-of-curb and labeled with the offset distance and the depth of cover. At the end of the project, the contractor shall survey the actual location of the pipe in state plane coordinates and provide information to Engineer. Additionally, Contractor shall allow Engineer to also survey the pipe. After survey is complete, Contractor shall remove pipes or cut pipes off below grade and restore surface.

C. The Contractor shall field measure the horizontal distance from edge of paving and the vertical elevation from edge of paving before covering the pipe and shall record this data on as-built drawings. The Contractor must maintain an up-to-date field record set of drawings by marking changes and other information directly on a set of contract drawings. As-Built drawings shall be submitted to Engineer for review each month with applications for payment.

D. Making Entries on As-Built Drawings:

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.
    a. Color Coding:
        1) Green when showing information deleted from Documents.
        2) Red when showing information added to Documents.
        3) Blue and circled in blue to show notes.
2. Date all entries.
3. Clearly annotate who is making the entry.
4. Call attention to entry by "cloud" drawn around area or areas affected.
5. Legibly mark to record actual changes made during construction, including, but not limited to:
    a. Horizontal and vertical locations of existing and new underground facilities and appurtenances, and other underground structures, equipment, or Work.
    b. Measure and record the horizontal distance from the edge of pavement and the depth to the top of the water main relative to the edge of pavement. Such measurements shall be recorded every fifty (50) feet along the entire water main route.
    c. Changes made by Addenda and Field Orders, Work Change Directive, Change Order, Written Amendment, and Engineer's written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.
6. Dimensions on Schematic Layouts: Show on as-built drawings, by dimension, the centerline of each run of items such as are described in previous subparagraph above.

a. Clearly identify the item by accurate note such as "cast iron drain, "galv. water," and the like.

b. Make identification so descriptive that it may be related reliably to the Technical Specifications.

** END OF SECTION **

SECTION 02000
GENERAL CONSTRUCTION REQUIREMENTS

1 GENERAL

1.1 WORK INCLUDED

A. The work described in this section applies to the Project in general. The Contractor shall comply with these requirements in performing all construction activities under the Contract.

1.2 CLEARING AND GRUBBING

A. Where necessary, the Contractor shall clear and grub a sufficient width along the pipeline to permit installation of the work. The Contractor shall clear only that area of the construction site that has adequate erosion and sedimentation control in place.

B. The debris resulting from the clearing and grubbing operation shall be hauled to a disposal site secured by the Contractor and shall be disposed of in accordance with all requirements of federal, state, county and municipal regulations including any burning bans in effect at the time of construction. 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 except with written consent of the property owner. In no case shall any material or debris be left on the project, shoved onto abutting private properties or buried on the project. Trees, stumps, brush or other clearing debris may be used within the construction easement only if ground into wood chips and used as mulch for erosion and sedimentation control.

1.3 BARRICADES AND WARNING SIGNS

A. The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient red lights, danger signals and signs, provide sufficient number of watchmen and take all necessary precautions for the protection of the work and the safety of the public. Streets closed to traffic shall be protected by effective barricades on which shall be placed acceptable warning signs. All barricades and obstructions shall be illuminated at night, and all lights for this purpose shall be kept burning from sunset to sunrise.

1.4 VEHICULAR TRAFFIC CONTROL

A. All work shall be planned and prosecuted by the Contractor to minimize interference with vehicular and pedestrian traffic. Whenever the work under this contract causes disruption to the normal flow of traffic or poses a potential hazard, the Contractor shall be responsible for implementing safety measures and traffic control procedures as outlined in the "Manual on Uniform Traffic Control Devices", latest edition, published by the U.S. Department of Transportation, Federal Highway Administration. The Contractor shall submit a Traffic Control Plan to the City of Roswell Transportation Department and the Engineer. The City of Roswell Transportation Department shall approve the traffic control plan prior to beginning work.

B. At the beginning of the Project, Contractor shall contact the Owner and local authorities having jurisdiction over public roads to confirm procedures for road closures, and shall comply with State and Local Laws and Regulations regarding closing or restricting the use of public streets or highways. No public or private road shall be closed or restricted except with permission of the proper authority. No resident or business shall be denied vehicular access to his property for any length of time except as necessary as determined by the Engineer.

C. Whenever it is necessary to cross, close, or obstruct roads, driveways, and/or walks, whether public or private, Contractor shall provide suitable and safe bridges, detours, or other temporary expedients for accommodation of public and private travel.

D. No loading or unloading of equipment or materials shall be allowed on the pavement of local public streets unless authorized by the Owner. During loading or unloading operations, flagmen and temporary signs shall be provided to regulate traffic. Mats shall be

utilized beneath tracked equipment to prevent pavement damage. Pavement, curbing, sidewalks, or any other street component damaged by the Contractor shall be replaced by the Contractor at the Contractor's expense.

E. On any utility crew working in the vicinity of public roads, Contractor shall employ workers that are trained and competent in traffic control and safety procedures.

1.5 PROTECTION OF PROPERTY

A. Unless otherwise noted, the Contractor is responsible for removal of trees within the construction easement or right-of-way as necessary for safe performance of the work, but only such trees as necessary shall be removed. Trees that are damaged or later die as a result of the work shall be removed. Protect from damage and preserve trees, shrubs, and other plants outside the limits of the Work.

1. Do not stockpile materials or permit traffic within drip lines of trees.
2. Maintain temporary barricades around trees.
3. No trees outside the construction easement shall be removed without written approval of the property owner and the Engineer.
4. In the event of damage to bark, trunks, limbs, or roots of plants that are not designated for removal, treat damage by corrective pruning, bark tracing, application of a heavy coating of tree paint, and other accepted horticultural and tree surgery practices.

B. In the case of shrubs and ornamental trees smaller than 3 inches diameter, the Contractor is responsible for either:

1. Protecting these from damage; or
2. Temporarily removing and then re-setting them without damage; or
3. Replacing them with new stock of equal quality.

C. In general, grass will be seeded over all areas as specified elsewhere herein and all areas will be left in a neat condition, free of debris.

D. All property such as mailboxes, fences, signs, curb, paving, drain pipes, etc. shall be restored to original condition. Payment will be made only for those items that are listed in the Bid Proposal or Bid Form.

E. No property beyond the construction easement is to be altered, but if this does occur the Contractor will promptly remedy same at no cost to the Owner.

F. Contractor is responsible for maintaining all existing property corner markers. Property corners in the way of construction shall be referenced prior to construction to facilitate replacement. Any lost or damaged property markers and pins shall be replaced and the contractors expense.

1.6 PROTECTION OF PAVEMENT

A. When working along paved streets or roads, the Contractor shall use rubber-tired or other equipment which will not damage the paving and when pavement is damaged through negligence or carelessness on the part of the Contractor during construction, it shall be replaced at no expense to the City, County, or State, as the case may be. Mats shall be used to support tracked equipment while in use or while sitting on pavement. In no case shall a tracked vehicle be "walked" along a paved road or street from one section of work to another.

1.7 EXISTING UTILITIES AND STRUCTURES

A. Information regarding underground utilities on the drawings is not guaranteed as to accuracy or completeness. Prior to beginning work the Contractor shall request a field location through the Utility Protection Center and any utility owners thought to have facilities in the area. The Contractor shall promptly compare these field-marked locations with the project plans and then notify the engineer of any anticipated problems or need for contract changes. It is the Contractor’s responsibility to excavate for the purpose of

determining exact elevations or locations at utility crossings and other critical locations well in advance of the work under this contract.

B. All existing pipes, drains, or other structures on, above, or below ground shall be carefully supported and protected from injury and if injured, they shall be restored in a satisfactory manner by and at the expense of the Contractor.

1.8 HIGHWAY AND RAILROAD CROSSINGS

A. Where lines cross railroads and/or highways under the jurisdiction of the State highway department, the Owner will secure written permission from the controlling authority before any work can be done within the right-of-way. After the Owner notifies the Contractor that the permit or permits have been obtained, the Contractor shall coordinate his activities and construction procedure with the proper authority of the Railroad or Highway Department and shall conform to the requirements thereof. The Contractor will be required to furnish a release from the said controlling authority before final acceptance of the work. The Contractor will be responsible for all damage and injuries to persons and property inflicted or caused by said work.

1.9 FENCE REMOVED AND REPLACED (ALL TYPES AND SIZES)

A. The Contractor shall take down fences on or crossing right-of-way for such periods of time only as are necessary to prosecute the work of clearing, grubbing, trenching, pipe laying and backfilling. Gaps made in fences shall be closed in a substantial manner at night and during any suspension of work, and upon completion of the pipe line, fences shall be restored to as good condition as before disturbed. Where indicated on the plans or directed by the Engineer new fencing shall be installed to replace fencing that is removed for construction.

1.10 STREET CUTS

A. Before removing pavement, it shall be accurately marked with chalk-line. Pavement shall be neatly cut with the pavement cutter along marked lines. Surfacing and base course shall have a minimum bearing on undisturbed earth outside of the excavation lines for pipelines, manholes, and other appurtenances of at least 9-inches.

B. No pavement shall be removed until completely broken and separated along the marked lines.

C. All backfilling of excavated portions requiring pavement replacement shall be mechanically tamped in 6-inch layers using heavy-duty tampers such as pneumatic jackhammers with tamping foot attachment. Each layer shall be thoroughly tamped to a density equivalent to at least 95 percent of modified AASHTO T-99-49 Proctor Curve.

1.11 REPLACEMENT OF CUTS IN CONCRETE

A. The trench shall be back-filled up to and within 8-inches of the top of existing pavement unless otherwise directed by the engineer. The remaining sections shall be paved Class A, high early strength concrete.

B. All irregular edges and projections and cracked sections shall be removed before placing concrete.

C. Approved expansion joints shall be placed in the section to be paved to coincide with the existing expansion joints, or where ordered by the city engineer.

D. The concrete shall be smooth and even and shall conform to the surface of the existing pavement.

E. All concrete work shall be protected and cured in accordance with Georgia State Highway DOT specifications.

1.12 REPLACEMENT OF CUTS IN ASPHALT (GREATER THAN 150 FEET IN LENGTH)

A. The entire width of the road surface shall be milled 1½”.

B. The trench shall be back-filled up to and within 8-inches of the milled pavement unless otherwise directed by the City Engineer. The remaining section shall be paced with Class A, high early strength concrete.

C. All concrete work shall be protected and cured in accordance with Georgia State Highway DOT specifications.

D. The entire width of the road shall then be paved with a 1½" of 9.5-mm Superpave on lightly traveled roads (minor streets) or 12.5-mm Superpave for heavily traveled roads (major arterial and collector streets) per Georgia State Highway DOT specifications. Coordinate with City of Roswell Department of Transportation.

1.13 REPLACEMENT OF CUTS IN ASPHALT (LESS THAN 150 FEET IN LENGTH)

A. For streets with asphalt paving that is seven (7) years old or less, milling and resurfacing shall extend 50 feet on each side of the cut. For streets with asphalt paving that is more than seven (7) years old, milling and resurfacing shall extend 25 feet on each side of cut.

B. The trench shall be back-filled up to and within 8-inches of the milled pavement unless otherwise directed by the City Engineer. The remaining section shall be paced with Class A, high early strength concrete.

C. All concrete work shall be protected and cured in accordance with Georgia State Highway DOT specifications.

D. The entire width of the road shall then be paved with a 1½" of 9.5-mm Superpave on lightly traveled roads (minor streets) or 12.5-mm Superpave for heavily traveled roads (major arterial and collector streets) per Georgia State Highway DOT specifications. Coordinate with City of Roswell Department of Transportation.

1.14 BACKFILL MATERIAL - GENERAL

A. Backfill material shall consist of soil or soil-rock mixture, which is free from topsoil, organic matter, and other deleterious substances. Large boulders, thick rock or quartz layers, which are not broken down by compaction equipment, will not be suitable for use in the fill.

B. Backfill material shall be subject to the approval of the Engineer.

1.15 SIDEWALK REPLACEMENT

A. Paved sidewalks cut or broken shall be repaved with concrete unless otherwise directed by the City Engineer. The width shall equal the width of the existing sidewalk and the depth shall be 4-inches. The concrete shall be Class A and shall be placed, finished, cured, and protected in accordance with Georgia State Highway DOT specifications.

B. Sidewalks to be removed shall be removed to the nearest expansion joint or sawed at the nearest control joint.

1.16 CURB AND GUTTER REMOVAL AND REPLACEMENT

A. Curb and Gutter shall be removed only to the extent necessary to complete the work under this Project. Any curb and gutter that is removed shall be replaced. The replaced section shall match adjacent curb and gutter with respect to materials, finish, shape, slope and alignment.

B. Before removal of any section, it shall first be cut to avoid damage to adjacent, remaining curb and gutter.

C. After the concrete has set sufficiently, the space behind the curb shall be refilled to the required elevation with material which shall be compacted by tamping until firm and solid.

1.17 REPLACING GRAVEL DRIVEWAYS

A. Gravel driveway stone shall be removed and replaced where required. Replacement materials shall resemble the original stone as close as practical. Gravel shall be placed 4" deep.

1.18 RIP-RAP

A. Riprap shall consist of sound, dense, durable granite stones, free from dirt, oil, or other foreign material and meeting the requirements of section 805.01 of Georgia Department of Transportation Standard Specifications, latest edition. Riprap size shall be Georgia DOT Type 1 or Type 3 as indicated on the drawings for various locations.

B. Filter fabric shall be placed on the ground before placing riprap to prevent erosion. Filter Fabric shall be non-biodegradable, non-woven needle punched felt, having a minimum average roll weight of 7.5 oz./sq. yard such as Amoco 4553, Linq 225EX, Mirafi 180N or other approved equivalent fabric.

1.19 CONCRETE AND MORTAR

A. Concrete shall consist of Portland cement, a fine aggregate, a coarse aggregate, and water. Portland cement shall conform to Federal Specification SS-C-19 lb. Fine aggregate shall be clean, sharp, well graded sand conforming to Federal Specification SS-S-51. Coarse aggregate shall be uniformly graded broken stone or gravel which will pass a 1½-inch screen and be retained on a ¼-inch screen. Aggregate shall be free of clay, loam, silt, or organic matter. Water used for concrete shall be clean and free from vegetable, sewage or organic matter and the total amount used shall not exceed six (6) gallons per sack of cement. Forms may be of wood or metal properly braced to prevent bulging. Concrete shall be thoroughly mixed and well vibrated into forms and around fittings. Exposed surfaces of concrete shall be protected from premature drying by being kept covered and moist for a period of seven days. After the forms have been removed, the voids in the interior surface, if any, shall be properly filled with cement mortar and the whole surface rubbed uniformly with cement.

B. All mortar shall be composed of one part Portland cement to three parts sand, conforming to these specifications.

C. All concrete shall have a compressive strength of not less than 3,000 pounds per square inch at an age of 28 days.

1.20 SUBGRADE STABILIZER STONE

A. Stabilizer for subgrade shall be either approved crushed stone or gravel meeting Georgia DOT specifications for No. 57 stone.

1.21 BACKFILL SAND

A. Sand for backfilling over water mains, when required, shall be coarse, well graded sand relatively free from dirt and other foreign matter.

1.22 CLEAN-UP AND MAINTENANCE

A. All surplus materials, tools, temporary structures, excess dirt, rubbish and debris shall be removed by the Contractor and the site of construction shall be left in a clean and neat condition, satisfactory to the Engineer.

B. After the work is accepted as a whole, the Contractor shall maintain the surface of the unpaved streets, adjacent curbs, sidewalks, gutters, street paving, shrubbery, fences, sod, grass and other disturbed surfaces for a period of one hundred twenty days thereafter.

C. All labor and material required for such maintenance and/or repairs shall be furnished at no cost to the Owner, and the work shall be done in a manner satisfactory to the Engineer.

1.23 DOCUMENTATION OF PRE AND POST-CONSTRUCTION CONDITIONS

A. Just prior to starting construction, Contractor shall take digital photographs and such other documentation as deemed necessary to thoroughly document pre-construction conditions along the construction corridor. Documentation shall include driveways, mailboxes, landscaping, trees, shrubs, fences, roadway pavement, and other improvements (both public and private) that are likely to be impacted by construction. Contractor shall provide Engineer with a digital copy of this documentation before entering each area of the project.

B. After completion of construction and just prior to project close-out, Contractor shall provide Engineer with digital photographs and such other documentation as deemed necessary to

document post-construction conditions along the construction corridor. Particular attention shall be given to any areas that are the subject of complaints or claims in connection with the work.

1.24 TRENCH EXCAVATION

A. Pipe trenches shall be straight and true to grade and in the location shown on the plans. The bottom of trenches shall be dressed to facilitate laying conditions called for on construction plans to ensure that the pipe has an even bearing on bedding material throughout the entire length of the pipe barrel.

B. All trenches shall be of sufficient width to provide ample working space on each side of the pipe for maintaining a straight line of pipe, and bell or coupling holes of sufficient size shall be provided at all joints to allow making perfect joints.

C. Water lines shall have a minimum cover of 48-inches unless otherwise specified. All changes in grade shall be made gradually with particular attention to limitations on joint deflection for the type of joint and pipe being installed.

D. All trenches shall be dry. Contractor shall provide dewatering equipment if required.

E. The length of trench open at any one time shall be limited to a safe working distance (generally no more than 200 feet) from the pipe laying operation.

F. All excavation material shall be so placed so as not to interfere with public travel on the streets and highways along which the lines are laid unless a permit and traffic control plan have been approved for the work.

G. In order to facilitate cleanup, excavated material shall be placed on geotextile fabric.

H. All excess excavated material shall be disposed of without extra cost to the Owner.

I. The Contractor is responsible for complying with OSHA standards for trench safety and for employing safety measures such as sloping sides, shoring or sheeting as necessary to accomplish the work in a safe manner.

1.25 ROCK EXCAVATION

A. “Trench Rock” shall be defined as 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 cubic yard.

B. Rock excavation by blasting shall be at least 75 feet in advance of pipe laying. Rock shall be removed to a depth of at least 6 inches below the bottom of the pipe and this area shall be backfilled with rock-free soil (or crushed stone if below the water table) and lightly consolidated before placing the pipe in the trench. Backfill on the sides and for 6 inches above the top of the pipe shall be dry soil free of any rocks larger than 2 inches in size. If on-site soil does not meet this condition, then the Contractor shall use select borrow soil from offsite or No. 57 crushed stone at no additional cost to the Owner.

C. All blasting operations shall be conducted by qualified and licensed personnel and in a safe manner to avoid damage to adjacent property.

1.26 BORE PITS

A. Bore pits for cased bores and uncased bores shall be constructed as to avoid conflicts with the existing utilities and remain in the limits of the construction area. The Contractor shall take necessary precautions in order to ensure the pit meets the latest requirements of OSHA.

1.27 UNCASED BORES

A. Uncased bores will be utilized at approved locations to avoid damage that would otherwise be caused by open cut. For uncased bores, the hole is to be mechanically bored through the soil by a cutting head on a continuous auger. The diameter of the bore hole shall be limited to a maximum of the diameter of the bell of the ductile iron pipe plus two inches. Restrained joint pipe shall be placed in uncased bores.

1.28 PLACING OF STEEL CASING PIPE

A. Steel Casing pipe shall be installed by the "Jack and Bore" procedure or the "Open-Cut" method. Steel casing pipe shall be installed at the specific locations called for on the Drawings and the installation method shall be by the "Jack and Bore" procedure unless specifically stated to be installed by the "Open-Cut" method.

B. The "Jack and Bore" installation procedure shall be by the dry-bore method. The hole is to be mechanically bored and cased through the soil by a cutting head on a continuous auger mounted inside the casing pipe. The installation of the casing and boring of the hole shall be done simultaneously by jacking. Lengths of casing pipe are to be continuously welded the full circumference of the pipe diameter to the preceding section installed. Excavation material will be removed and placed at a safe distance from the top of the working pit.

C. The "Open-Cut" method consists of excavating the trench along the pipeline route and placing the steel casing in the trench. Special care shall be taken not to damage any existing utilities as the sections of casing are maneuvered into the open trench. Lengths of casing pipe are to be continuously welded the full circumference of the pipe diameter to the adjacent sections.

D. Casing insulators shall be used while installing the water main inside the casing. Two insulators shall be placed for each 18' or 20' segment of pipe. After the water main is installed in the casing, a check shall be made to ensure that the carrier pipe is not touching the casing at any point. The ends of the casing pipe shall be sealed with a three course mortared brick wall, one course of which shall be erected inside the casing.

E. Prior to installation of the steel casing pipe, the contractor shall dig or drill exploratory test holes to determine the existence of solid rock. The testing procedures may be accomplished by either test drilling or excavation, to a depth below the proposed depth of the bore. These tests are to be conducted, as a minimum, at the proposed ends of each casing location and, if readily accessible, within the road median at road crossings. If rock or evidence of rock is encountered, Contractor shall make additional explorations, accurately measuring and recording location and depth, to determine the extent of rock and shall immediately notify Engineer of findings. Payment for all exploration work shall be included in price bid per linear foot of steel casing pipe.

F. In the event rock is found, the Engineer is to be notified and a new bore location may be selected. The above exploratory testing procedure will be repeated until a suitable location is found.

G. After a suitable location is chosen and the placing of steel pipe begins, should unforeseen solid rock be encountered use the following procedure:

1. Remove equipment.
2. Fill the steel casing pipe with concrete.
3. Seal the exposed end of the casing pipe.
4. Backfill the trench.
5. Select another bore location and proceed as outlined.

** END OF SECTION **

SECTION 02270
EROSION CONTROL

1 GENERAL

1.1 GENERAL

A. Description

1. It is the intent of this Contract that the Contractor performs his work in accordance with all applicable requirements of the Georgia Erosion and Sedimentation Act. The Manual for Erosion and Sediment Control in Georgia further defines practices and requirements, which may apply to this work. The Contractor is responsible for maintaining all sediment and erosion control measures on the project site during construction, and he is responsible for any damage caused by failure to implement these requirements.
2. In general, erosion control measures shall be implemented in any area where the work of the contractor creates a condition where erosion and sedimentation would otherwise occur.

B. Erosion Control Measures

1. Specific measures to be implemented will be based upon site conditions. The needed measures will be installed and maintained by the Contractor in accordance with local and state regulations. It is contemplated that the following erosion control measures will be implemented on the project:
   a. Temporary Silt Fence
   b. Curb Inlet Filter
   c. Other approved measures as required

2 PRODUCTS

2.1 TEMPORARY SILT FENCE

A. Temporary silt fence shall be Type C.

B. Filter fabric will be rejected if it has defects, rips, holes, flaws, or deterioration at the time of installation.

C. The size and type of fence posts and fasteners for the Type C fence shall be as specified in The Manual for Erosion and Sediment Control in Georgia

2.2 CURB INLET FILTER

A. Curb inlet filters shall be 19”x28” gravel-filled, heavy-duty, geotextile bags that span across the catch basin inlet.

3 EXECUTION

3.1 TEMPORARY SILT FENCE

A. Temporary silt fencing shall be located and installed at specific locations indicated on the plans and at other locations determined in the field as necessary to control erosion and sedimentation.

B. Filter fabric shall be installed in a trench 4" deep by 2" wide. The fabric shall be installed in the trench such that 4" of fabric is against the side of the trench with 2" of fabric across the bottom in the upstream direction of runoff flow.

1. Post installation shall begin at the center of the low point with the remaining posts spaced a maximum of 6 feet apart. Posts shall be installed 18" deep. Where it is not

possible to install posts 18" deep, the posts shall be adequately secured to prevent overturning of the fence due to sediment loading.

2. Fence overlap at fabric ends shall be as detailed in Supplement to Erosion Control Specifications for Type C silt fence.

C. The Contractor shall maintain the silt fence until just prior to final acceptance or until it is removed as directed by the Engineer. Fencing shall be removed and replaced whenever it has been damaged or has deteriorated to such an extent that it no longer effectively prevents sediment runoff as determined by the Engineer.

1. Maintenance of the fence shall include removal and proper disposal of silt deposits at the fence when such deposits accumulate to one-half the height of the silt fence.

2. Upon removal of the silt fence, the Contractor shall dress out the area and provide temporary grassing or straw mulch stabilization as specified below.

3.2 INLET FILTER

A. Inlet filters shall be installed at all curb inlets and around all drop inlets located in the pavement.

B. Inlet filters shall be placed 4-inches from each inlet to allow for overflow and prevent hazardous ponding in the roadway. This method of inlet protection shall be removed if a safety hazard is created.

C. Inlet filters shall be maintained until just prior to final acceptance or until it is removed as directed by the Engineer. Damaged or deteriorated inlet filters shall be removed and replaced when sediment runoff is no longer effectively prevented as determined by the Engineer.

1. Maintenance of the inlet filters shall include removal and proper disposal of silt deposits at the inlet filter when such deposits accumulate up to the height of the inlet filter.

** END OF SECTION **

SECTION 02936
GRASSING

1 GENERAL

1.1 SCOPE

A. This section covers preparation of subsoil, placing of topsoil, grassing construction, protection, maintenance, guarantee and replacement of grassing, and related items necessary for the establishment of a suitable stand of grass in areas disturbed by the construction.

B. All areas within the limits of construction of this project are to be grassed or mulched as required to comply with Local and State Erosion Control Regulations. Temporary grassing or mulching is to be used during construction and permanent grassing or groundcover is to be installed upon completion of construction.

C. Lawns with fescue grass shall be permanently seeded with fescue. Lawns with all other grasses, such as Bermuda, shall be permanently grassed with sod that matches the existing grass.

1.2 SUBMITTALS

A. Certification of Grass Seed: Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity, germination, and weed seed for each grass seed species.

1.3 DELIVERY, STORAGE, AND PROTECTION

A. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

B. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.4 MAINTENANCE

A. Provide service and maintenance of seeded areas for twelve months from Date of Substantial Completion.

B. Maintenance includes re-fertilization, weeding, mowing, watering, clean up, repair of all washouts, and gullies.

1.5 ACCEPTANCE

A. Establish a uniform stand of the specified grass with scattered bare spots, none of which is larger than one square foot, allowed up to a maximum of 3% of any grassed area.

B. It shall be the responsibility of the Contractor to repair any erosion damage to the grassed area until the date of final acceptance.

2 PRODUCTS

2.1 MATERIAL STANDARDS

A. Use materials that meet the requirements of the following Georgia Department of Transportation Standard Specifications:

1.	Wood Fiber Mulch	DOT Sec. 718.2
2.	Emulsified Asphalt	DOT Sec. 822
3.	Agricultural Lime	DOT Sec. 882.2.01
4.	Seed	DOT Sec. 890.2.01
5.	Sod	DOT Sec. 890.2.02
6.	Fertilizer	DOT Sec. 891.2.01

7. Plant Topsoil DOT Sec. 893.2.01
8. Mulch DOT Sec. 893.2.02
9. Inoculants DOT Sec. 893.2.04
10. Tackifiers DOT QPL 33

2.2 GRASS

A. Sod shall be new and shall match the existing grass that it is replacing.

B. Fescue seed mixture shall be selected from Section 700 of Georgia DOT Standard Specifications based on the geographic zone, the time of planting and the desired species of permanent grassing. Whenever seeds are specified by their common names, use the strains indicated by their botanical names. Use inoculants as required based on the type of seed

C. Temporary Grassing may be required if planting is needed at a time when the desired permanent grassing cannot be seeded according to Section 700 of Georgia DOT Standard Specifications. Any temporary grassing must be approved by Engineer.

2.3 ACCESSORIES

A. Mulching Material: Oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry.

B. Fertilizer: Use a balanced commercial fertilizer mixed grade such as 10-10-10, 6-12-12, 5-10-15, or other analysis and apply at the rate per acre needed based on soil test results.

C. Water: Clean, fresh and free of substances or matter that could inhibit vigorous growth of grass.

D. Erosion Fabric: Where required to contain erosion, install a biodegradable matting.

E. Lime: Use agricultural lime.

2.4 TESTS

A. Soil samples shall be taken and tested to determine grade and rate of application rates of fertilizer and lime.

3 EXECUTION

3.1 EQUIPMENT

A. Use grassing equipment able to produce the required results.

3.2 PREPARATION OF SOIL

A. Prepare the ground by plowing under any temporary grass areas and prepare the soil by removing boulders, stumps, large roots, large clods, and other objects that interfere with grassing or mowing.

3.3 FERTILIZER AND LIME

A. Apply fertilizer and lime at the recommended rate per acre in accordance with soil test results. Mix thoroughly in the top several inches of soil using harrows, tillers or other suitable equipment.

3.4 SEEDING

A. Inoculate Seed.

1. Inoculate each kind of leguminous seed separately with the appropriate commercial culture according to the manufacturer’s instructions for the culture. When hydroseeding, double the inoculation rate. Protect inoculated seed from the sun and plant it the same day it is inoculated.

B. Sowing

1. Weather permitting, sow seed within 24 hours after preparing the seed bed and applying the fertilizer and lime.
2. Sow seed uniformly at the rates specified in the GA DOT Seeding Table for the specified type of permanent stand of grass.
3. Use approved mechanical seed drills, rotary hand seeders, hydraulic equipment, or other equipment to uniformly apply the seed. Do not distribute by hand.
4. To distribute the seeds evenly sow seed types separately, except for similarly sized and weighted seeds.

C. Rolling

1. Roll seeded areas before applying mulch, except on steep slopes where rollers cannot operate satisfactorily. On slopes inaccessible to compaction equipment, cover the seeds by dragging spiked chains over them or by using other methods.
2. Do not sow during windy weather, when the prepared surface is crusted, or when the ground is frozen, wet, or otherwise nontillable.

D. Hydroseeding:

1. Hydroseeding may be used on any grassing area. Under this method, spread the seed, fertilizer, and wood fiber mulch in the form of slurry. Seeds of all sizes may be mixed together. Inoculate the seeds at double the rate for seeds not being hydroseeded. Apply hydroseeding as follows:
    (1) Use wood fiber mulch as a metering agent and seed bed regardless of which mulching method is chosen.
    (2) Apply wood fiber mulch at approximately 1,500 lbs/acre.
    (3) Prepare the ground for hydroseeding as for conventional seeding.
    (4) Use specially designed equipment to mix and apply the slurry uniformly over the entire seeding area.
    (5) Agitate the slurry mixture during application.
    (6) Discharge slurry within one hour after being combined in the hydroseeder. Do not hydroseed when winds prevent an even application.
    (7) Closely follow the equipment manufacturer's directions.
    (8) Mulch the entire hydroseeded area.

3.5 MULCHING

A. Evenly apply straw or hay mulch between 3/4 in and 1-1/2 in deep, according to the texture and moisture content of the mulch material.

B. Mulch shall allow sunlight to penetrate and air to circulate as well as shade the ground, reduce erosion, and conserve soil moisture. If the type of mulch is not specified on the Plans or in the Proposal, use any of the following as specified.

1. Mulch with Binder. Apply mulch with binder regardless of whether using sowing or hydroseeding methods for seeding. Apply manually or with special blower equipment designed for the purpose. When using a blower, thoroughly loosen baled material before feeding it into the machine so that it is uniformly coated with binder and broken up. After distributing the mulch initially, redistribute it to bare or inadequately covered areas in clumps dense enough to prevent new grass from emerging. Do not apply mulch on windy days. Apply enough binder to the mulch to hold it in place. Immediately replace mulch that blows away. When using a power blower to distribute the mulch, spray the binder onto the mulch as the mulch is ejected from the machine. If distributing the mulch by hand, immediately apply the binder uniformly over the mulched areas. Use one of the following binders: □Emulsified asphalt, SS-1h or SS-1

(DOT Section 822); or use a tackifier listed in the Laboratory Qualified Products Manual. Follow manufacturer's recommended rates.

2. Mixed-in-Place Mulch. Apply mixed-in-place mulch on flat areas or slopes 3:1 or less and treat as follows:

    (1) Immediately work the mulch into the soil with appropriate equipment to produce a loose soil and mulch mixture 3 in to 3.5 in (75 mm to 90 mm) deep.

    (2) After mixing mulch and soil and restoring areas to line and grade, seed as specified in this Section.

3. Walked-in-Mulch

    (1) Apply walked-in-mulch on slopes ranging in steepness from 5:1 to 2:1 and treat as follows:

    (2) Immediately walk it into the soil with a cleated track dozer. Make dozer passes vertically up and down the slope.

    (3) Where walked-in-mulch is used, do not roll or cover the seeds.

C. Cover seeded slopes where grade is 2:1 or greater with an approved erosion fabric installed according to manufacturer's recommendations.

3.6 MAINTENANCE

A. After the grass has grown to a height of 2 inches and before final acceptance, one additional application of nitrogen at the rate of 50 lbs/acre must be applied.

B. Apply nitrogen with mechanical hand spreaders or other approved spreaders capable of uniformly covering the grassed areas. Do not apply nitrogen on windy days or when the foliage is damp. Do not apply nitrogen between October 15 and March 15 except in Zone 4. Mow grass at regular intervals to maintain at a maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at any one mowing.

C. Water to prevent grass and soil from drying out.

D. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides.

E. Immediately reseed areas that show bare spots.

F. Apply fertilizer at approximately 600 lbs/acre each spring after initial plant establishment until Final Acceptance.

G. The Engineer may require replanting of an area that shows unsatisfactory growth for any reason at any time. Except as otherwise specified or permitted, prepare replanting areas according to the Specifications as if they were the initial planting areas.

** END OF SECTION **

SECTION 15000
WATER LINES

1 GENERAL

1.1 SCOPE OF WORK

A. Supply all labor, equipment, materials, and incidentals necessary to install and test all water supply piping and appurtenances as specified.

B. Work shall include, but not be limited to, all excavation, backfilling, sheeting, slope protection, drainage, concrete work, rip-rap, grading, and all other work necessary to complete the construction, installation, and testing of the pipe.

1.2 QUALIFICATIONS

A. The pipe and fittings shall be designed, constructed, and installed in accordance with these Specifications as applicable.

1.3 SUBMITTALS AND TESTING

A. The Contractor shall submit to the City of Roswell, prior to start of construction, a list of materials to be furnished.

B. Submit shop drawings to the City of Roswell.

1.4 INSPECTION

A. All pipe and fittings to be installed under this contract may be inspected, by the City of Roswell, at the site of manufacturer for compliance with these Specifications.

B. Connection to Work by Others or Existing Lines

1. For existing lines or lines installed under other Contracts, to which piping of this Contract must connect, the Contractor shall expose buried lines to confirm or determine end connection details, pipe material and diameter and furnish and install appropriate piping and make proper connections.

2 PRODUCTS

2.1 GENERAL

A. All materials shall be new.

B. All materials shall be of standard manufactured design that the manufacturer recommends for the service intended in accordance with AWWA or ASTM Standard Specifications.

C. All pipe and appurtenances shall be of the size shown on the Drawings and all materials of the same type shall be from one manufacturer.

D. Pipe materials shall be as follows:

1. Water mains 4-inches in diameter and larger shall be Pressure Class 350 ductile iron pipe.

2. Water mains 3-inches in diameter and smaller shall be Municipex crosslinked polyethylene pipe.

3. ¾-inch to 2-inch service lines shall be copper pipe or tubing

E. All brass fittings shall be lead free.

2.2 DUCTILE IRON PIPE AND FITTINGS

A. Ductile iron pipe shall meet the following requirements.

1. Ductile iron pipe shall be of the centrifugally cast type, either in metal or cast molds, and shall conform to ANSI/AWWA C150/A21.51.

2. Ductile iron for pipe shall have a minimum tensile strength of 60,000 psi.

3. Ductile iron for pipe shall have a minimum yield strength of 42,000 psi.
4. Ductile iron pipe shall have a minimum pressure rating of 350 PSI.
5. The pressure rating and manufacture date shall be shown on each piece.
6. All pipe shall be furnished complete with all necessary glands, joint material, including rubber gaskets lubricant, bolts and nuts, etc.
7. Gaskets shall be neoprene or plain rubber.
8. The interior surface of ductile iron pipe shall be coated with a standard thickness cement mortar lining in accordance with ANSI/AWWA C104/A21.4, as amended. Every precaution shall be taken to prevent damage to the lining. If the lining is damaged or found to be faulty at the delivery site, the damaged or unsatisfactory portions shall be repaired or replaced with a lining in conformance with recommendations of the manufacturer. All repairs shall be as smooth as practical and may not project into the waterway.
9. The exterior surface of ductile iron pipe shall be coated with a minimum 1-mil thick bituminous coating in accordance with ANSI/AWWA C151/A21.51, as amended.
10. Unless otherwise noted, all ductile iron joints used in the project shall be push-on joint and shall meet the requirements of ANSI/AWWA C111/A21.1, as amended.

B. Ductile iron fittings shall meet the following requirements.
1. Fittings shall conform to ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53, as amended.
2. Ductile iron for fittings shall have a minimum tensile strength of 70,000 psi.
3. Ductile iron for fittings shall have a minimum yield strength of 50,000 psi.
4. Fittings shall be furnished with mechanical type joints in accordance with ANSI/AWWA C111/A21.11, as amended and restrained joint glands. Restrained joint glands shall be Mega-Lug by EBAA Iron, or equal.
5. The proper number of gaskets, bolts, and all necessary joint materials, plus one extra gasket for every 50 joints or fraction thereof, shall be furnished with the ductile iron fittings.
6. Gaskets shall be neoprene or plain rubber.
7. The interior surface of ductile iron fittings shall be coated with a double thickness cement mortar lining in accordance with ANSI/AWWA C104/A21.4, as amended.
8. The exterior surface of ductile iron fittings shall be coated with a minimum 1 mil thick bituminous coating in accordance with AWWA C153, as amended.
9. Where fittings are located within 3 feet of each other, the joints nearest each other shall be tied together with threaded rods. Threaded rods shall be Type 316 stainless steel. Nuts shall be heavy hex, Type 316 stainless steel conforming to ASTM A194, Grade 8M.
10. All fittings shall have thrust blocks.

C. Acceptable Manufacturers
1. American Cast Iron Pipe Company
2. U.S. Pipe and Foundry Company
3. Owner Approved Equal.

2.3 CROSSLINKED POLYETHYLENE PIPE

A. Crosslinked polyethylene (PEXa) pressure pipe shall be in accordance with AWWA C904.

B. PEXa pressure pipe shall have a minimum working pressure of 160 PSI at 73.4°F.

C. PEXa pressure pipe shall be copper tube size (CTS) in accordance with ASTM F876.

D. PEXa pressure pipe shall meet NSF Standard 61 for potable water applications.

E. Provide stainless steel insert stiffeners for connections to all fittings.

F. PEXa pressure pipe shall be Rehau Municipex.

2.4 COPPER PIPE

A. Copper pipe shall conform to Federal Specifications WW-P-377 and ASTM B42 and ASTM B302, with plain ends and lengths standardized at 12 feet.

2.5 COPPER TUBING

A. Copper tubing shall conform to ASTM Designation B88 for the Type "K" Soft Temper and AWWA 7S-CR Type "K" and may be used in 20-foot straight lengths or 60/100 foot coils.

2.6 STEEL CASING PIPE

A. Steel casing pipe shall be new, seamless steel pipe conforming to ASTM A252, Grade 2.

B. Minimum thickness: ¼-inch.

C. Minimum tensile strength: 60,000 PSI

D. Minimum yield strength: 35,000 PSI

E. Minimum elongation in 2-inches: 25%

F. Steel pipe shall be coated on the interior and exterior with bituminous asphalt.

2.7 CASING SPACERS

A. Panel and riser shall be Type 304 stainless steel, crosslinked epoxy coated carbon steel, or thermoplastic powder coated carbon steel.

B. Liner shall be elastomeric PVC, 0.09 inches thick, with a Durometer “Shore A” hardness of 85-90 and a minimum 58,000-volt dielectric strength in accordance with ASTM D149.

C. Runners shall be glass reinforced polymer (nylon).

D. Acceptable Manufacturers

1. Advanced Products & Systems, Inc., Model SSI or Model SI
2. Pipeline Seal and Insulator, Inc., Model S or Model C
3. Power Seal Corporation, Model 4810
4. Owner Approved Equal.

2.8 POLYETHYLENE ENCASEMENT

A. Where indicated on the Drawings, the Contractor shall provide a double wrapped polyethylene encasement over pipe, fittings, and valves.

B. Polyethylene encasement material shall be minimum 8-mil, low density, flat tube, virgin polyethylene film conforming to ANSI/AWWA C105/A21.5.

C. Polyethylene encasement shall have the following properties:

1. Tensile strength: Minimum 3,600 PSI
2. Elongation: Minimum 800%
3. Dielectric strength: Minimum 800 V/mil
4. Impact resistance: Minimum 600 grams
5. Propagation tear resistance: Minimum 2,550 grams force

D. Securing tape shall be 2-inch wide PVC pipe tape, minimum 10-mill thickness, 245-percent elongation, and 30 PSI tensile strength.

2.9 GATE VALVES

A. Resilient seated gate valve for water supply service conforming to AWWA C509.

B. Valve body and bonnet shall be ASTM A126, Class B ductile iron.

C. Disc shall be cast iron.

D. Valve stem shall be cast bronze.

E. Minimum 200 PSI working pressure.

F. Buried valves shall have non-rising stem (NRS) operators with 2-inch operating nuts.

G. Above grade (non-buried) valves shall have outside stem and yoke (OS&Y) operators.

H. Gate valve shall open counterclockwise (left).

I. End Connections

1. Buried valves

a. 3-inch and Smaller Valves: IPS Thread x IPS Thread

b. 4-inch and Larger Valves: MJ x MJ end connections.

2. Above grade (non-buried) valves

a. FLG x FLG end connections.

J. Interior and exterior surfaces shall be coated with fusion-bonded epoxy coating in conformance with AWWA C550.

K. Gate valve shall be NSF/ANSI Standard 61 compliant.

L. Acceptable Manufacturers

1. Dresser

2. M&H

3. Mueller

4. Owner Approved Equal

2.10 CORPORATION STOPS

A. Brass corporation stops shall be lead free and shall conform to AWWA C800.

B. ¾-inch and 1-inch corporation stop connections shall be AWWA/CC Taper Thread inlet x Pack Joint Copper Tube Size (CTS) Compression outlet or AWWA/CC Taper Thread inlet x Female Iron Pipe (FIP) Thread outlet.

C. 1½-inch and 2-inch corporation stop connections shall be Male Iron Pipe (MIP) Thread inlet x Female Iron Pipe (FIP) Thread outlet.

D. Acceptable Manufacturers

1. Cambridge Brass (Hays)

2. The Ford Meter Box Company, Inc.

3. Mueller Co.

4. Owner Approved Equal

2.11 CURB STOPS

A. Brass curb stops shall be lead free and shall conform to AWWA C800.

B. Curb stop connections shall be Pack Joint Copper Tube Size (CTS) Compression inlet x Pack Joint Copper Tube Size (CTS) Compression outlet or Pack Joint Copper Tube Size (CTS) Compression inlet x Female Iron Pipe (FIP) Thread outlet.

C. Acceptable Manufacturers

1. Cambridge Brass (Hays)

2. The Ford Meter Box Company, Inc.

3. Mueller Co.

4. Owner Approved Equal

2.12 ADAPTERS AND UNIONS

A. Adapters and unions for copper tubing and pipe shall be lead free and shall conform to AWWA C800.

B. Acceptable Manufacturers

1. Cambridge Brass (Hays)
2. The Ford Meter Box Company, Inc.
3. Mueller Co.
4. Owner Approved

2.13 SERVICE SADDLES

A. Ductile Iron Pipe

1. Double strap service saddles conforming to AWWA C800.
2. Ductile iron body conforming to ASTM A536.
3. AWWA/CC Taper Thread or Female Iron Pipe (FIP) Thread.
4. Carbon steel straps conforming to ASTM A108.
5. Nuts shall be heavy hex type, low carbon steel, zinc plated conforming to ASTM A563 and washers shall be SAE flat washers, low carbon steel, zinc plated conforming to ASTM F844.
6. Fusion bonded epoxy coating conforming to AWWA C213.
7. Heavy duty, Buna N outlet gasket.
8. Service saddle shall be NSF/ANSI Standard 61 compliant.
9. Acceptable Manufacturers
    a. The Ford Meter Box Company, Inc. Style F202
    b. Smith-Blair Style 313
    c. Owner Approved Equal

B. Crosslinked Polyethylene (PEXa) Pipe

1. All stainless steel service saddle conforming to AWWA C800.
2. Minimum 200 PSI working pressure.
3. Minimum two bolts.
4. AWWA/CC Taper Thread or Female Iron Pipe (FIP) Thread.
5. Heavy duty, Buna N outlet gasket.
6. Service saddle shall be NSF/ANSI Standard 61 compliant.
7. Acceptable Manufacturers
    a. Romac Style 306
    b. Owner Approved Equal

2.14 TAPPING SLEEVES

A. Ductile iron mechanical joint tapping sleeve.

B. Minimum 200 PSI working pressure.

C. Minimum tap size shall be 6”.

D. Tapping sleeve shall have ¾” NPT test plug.

E. Tapping sleeve shall be NSF/ANSI Standard 61 compliant.

F. Acceptable Manufacturers

1. M & H Model 2174
2. Mueller Model H-615
3. Owner Approved Equal

2.15 STEEL COUPLINGS

A. Bolted, sleeve-type steel couplings shall conform to AWWA C219.

B. Minimum 150 PSI working pressure.

C. Coupling sleeve shall be carbon steel with a minimum yield of 30,000 PSI.

D. Follower flanges shall be carbon steel or ductile iron.

E. Hardware shall be heavy hex type, low carbon steel, zinc plated bolts conforming to ASTM A307, Grade B and heavy hex type, low carbon steel, zinc plated nuts conforming to ASTM A563, Grade B.

F. Gaskets shall be Buna-N rubber.

G. Steel couplings shall have fusion bonded epoxy coating conforming to AWWA C213.

H. Steel couplings shall be NSF/ANSI Standard 61 compliant.

I. Acceptable Manufacturers

1. Dresser Manufacturing Company Style No. 38
2. Smith-Blair Catalog No. 411
3. Owner Approved Equal

2.16 FIRE HYDRANTS

A. Six (6)-inch, dry barrel, fire hydrant conforming to AWWA C502.

B. Minimum 250 PSI working pressure.

C. Fire hydrant shall have 6” MJ base connection.

D. Fire hydrant shall have 5¼” main valve.

E. Valve seats shall be bronze to bronze.

F. Fire hydrant shall have automatic drain that closes fully when the main valve is open.

G. Fire hydrant shall have one (1) 4½” pumper nozzle and two (2) 2½” hose nozzles. Nozzle threads shall be the standard adopted by the National Board of Fire Underwriters (NBFU). Nozzles shall have caps with gaskets and shall be fitted with chains.

H. Fire hydrant shall have 1½” National Standard pentagon operating nut that opens counterclockwise.

I. Fire hydrant color shall be silver.

J. Minimum depth of bury shall be 4 feet.

K. Acceptable Manufacturers

1. M&H Model 129
2. Mueller Super Centurion 250
3. U.S. Pipe Model M94

2.17 CAST IRON VALVE BOXES FOR WATER MAIN VALVES

A. Valve boxes shall be cast-iron, two or three pieces, with cast iron covers.

B. The barrel shall be one or two-piece, screw type, having 5¼-inch shaft.

C. Covers shall have “WATER" cast into the top.

2.18 VALVE BOXES FOR SERVICE LINE VALVES

A. Valve boxes for service line valves shall be high density polyethylene or fiber reinforced plastic.

B. Valve boxes shall be minimum 6” diameter by 9” tall boxes with T-cover.

C. Valve box color shall be black.

D. Acceptable Manufacturers

1. Carson/Oldcastle Precast, Inc.
2. DFW Plastics, Inc.
3. Owner Approved Equal

2.19 TRACER WIRE

A. Direct burial #14 AWG solid, soft drawn, high strength copper clad steel wire.

B. 30 volt rating.

C. 30-mil high molecular weight, high density, polyethylene jacket complying with ASTM D1248.

D. Color: Blue

E. Tracer wires shall be connected together using moisture displacement connectors with strain relief.

F. Acceptable Manufacturers:

1. Copperhead Industries, LLC
2. Pro-Line Safety Products Company
3. Owner Approved Equal

3 EXECUTION

3.1 GENERAL

A. Care shall be taken in loading, transporting and unloading to prevent injury to the pipe or coatings. Pipe or fittings shall not be dropped. All pipe or fittings shall be examined before installing, and no piece shall be installed which is found to be defective. Any damage to the pipe coatings shall be repaired as directed by the City of Roswell.

B. Pipe and fittings shall be subjected to a careful inspection just prior to being laid or installed. If any defective pipe is discovered after it has been laid it shall be removed and replaced with a sound pipe in a satisfactory manner at no additional expense to the City of Roswell. All pipe and fittings shall be thoroughly cleaned before laying, shall be kept clean until they are used in the work, and when installed or laid, shall conform to the lines and grades required.

C. Unless specifically indicated otherwise, underground piping shall slope uniformly between joints.

D. Contractor shall exercise extreme care when constructing piping to protect from damage all existing underground utilities, and all existing structures.

3.2 INSTALLATION

A. General

1. Pipe and fittings shall be installed using bedding, as shown on the drawings, and in accordance with requirements of AWWA Standard Specifications except as otherwise provided herein. A firm, even bearing throughout the length of the pipe shall be constructed by tamping selected material at the sides of the pipe up to the springline. BLOCKING SUPPORTS WILL NOT BE PERMITTED. Bell holes shall be hand excavated to insure uniform bearing along the pipe barrel.

2. All pipes shall be sound and clean before installing. When installation is not in progress, including lunchtime, the open ends of the pipe shall be closed by watertight plug or other approved means. Good alignment shall be preserved in laying. The deflection at joints shall not exceed that recommended by manufacturer.
3. When cutting pipe is required, the cutting shall be done by machine, leaving a smooth cut at right angles to the axis of the pipe. Cut ends of pipe to be used with a bell shall be beveled to conform to the manufactured spigot end. Lining shall be undamaged.
4. Push-on joints shall be made in strict accordance with the manufacturer's instructions. Pipe shall be laid with bell ends looking ahead. A rubber gasket shall be inserted in the groove of the bell end of the pipe, and the joint surfaces cleaned and lubricated. The plain end of the pipe is to be aligned with the bell of the pipe to which it is to be joined, and pushed home with a jack or by other means. After joining the pipe, a metal feeler shall be used to make certain that the rubber gasket is correctly located.
5. Joints at fittings, and where designated on the drawings and/or as specified, shall be in accordance with the “Notes on Method of Installation” under ANSI Specification A21.11 and the instructions of the manufacturer. To assemble the joints in the field, thoroughly clean the joint surfaces and rubber gasket with soapy water before assembly.
6. Unless otherwise noted, underground piping shall be push-on.
7. All fittings and other appurtenances needed upon the pipe lines shall be set and jointed as indicated on the Drawings or as required by the manufacturer.
8. Provide stainless steel insert stiffeners for connecting crosslinked polyethylene pipe to all valves and fittings.
9. The Contractor shall arrange, if requested by the Owner, for the pipe manufacturer to furnish information and supervise the installation of at least the first five (5) push-on joints.
10. The Contractor shall carefully regulate his equipment and construction operations such that the loading of the pipe does not exceed the loads for which the pipe is designed and manufactured. Any pipe damaged during construction operations shall be replaced at the Contractor's expense.
11. All piping shall be properly and adequately supported. Supports shall be provided as indicated on the Drawings. If the method of support is not indicated on the Drawings, piping shall be supported as directed by the City of Roswell.
12. The proper number of gaskets and all necessary joint materials, plus one extra gasket for every 50 joints or fraction thereof, shall be furnished with the pipe and fittings.
13. Pipe embedment shall conform to manufacturer's recommendations. Bedding and backfill for pipe shall be as shown on the Drawings.

B. Pipe Supports and Thrust Blocks

1. All piping shall be properly and adequately supported. Concrete piers and pads shall be provided as indicated on the Drawings. If the method of support is not indicated on the Drawings, exposed piping shall be supported as directed by the City of Roswell.
2. Longitudinal thrust along pressurized pipelines at bends, tees, reducers, and raps or plugs shall be counteracted by enough weight of concrete to counterbalance the vertical and horizontal thrust forces.
3. Joints shall be protected by felt roofing paper prior to placing concrete thrust block.
4. Bearing area of thrust blocks shall be adequate to prevent any movement of the fitting and shall be of the size and dimensions as shown on the Drawings.
5. Concrete for thrust blocking shall be 3000-psi minimum. Concrete shall be placed against undisturbed material and shall not cover joints, bolts or nuts, or interfere with the removal of any joint. Wooden side forms shall be provided for thrust blocks.
6. Restrained joints and thrust blocks shall be used on all fittings.

C. Pressure and Leakage Tests of Underground Pressure Piping

1. Hydrostatic pressure and leakage tests shall conform to Section 4 of AWWA C600 Specification with the exception that the Contractor shall furnish all gauges, meters, pressure pumps and other equipment needed to test the line. The pressure gauge used for testing shall be laboratory calibrated suitable for the test pressure required.
2. The pressure required for the field hydrostatic pressure test shall be 150% of the maximum operating pressure of the section or the pressure class of the pipe, whichever is greater. The Contractor shall provide temporary plugs and blocking necessary to maintain the required test pressure. Corporation cocks at least ¾-inches in diameter, pipe riser and angle globe valves shall be provided at each pipe dead-end and high point in order to bleed air from the line. Duration of pressure test shall be at least 2 hours. The cost of these items shall be included as a part of testing.
3. The contractor shall contact the City of Roswell prior to conducting any pressure test. A record of successful pressure testing results will be provided by the contractor to the City of Roswell inspector at the time of observing the leakage testing.
4. The leakage test shall be a separate test at the maximum operating pressure as determined by the City of Roswell following the pressure test and shall be of not less than 2 hours duration. All exposed pipes, fittings, valves, and joints will be carefully examined during the tests and all leaks evident at the surface shall be repaired and leakage eliminated regardless of total leakage as shown by test. Lines that fail to meet tests shall be repaired and retested as necessary until test requirements are complied with. Defective materials, pipes, valves, and accessories shall be removed and replaced. The pipe lines shall be tested in such sections as may be directed by the City of Roswell by shutting valves or installing temporary plugs as required. The line shall be filled with water and all air removed and the test pressure shall be maintained in the pipe for the entire test period by means of a force pump to be furnished by the Contractor. Accurate means shall be provided for measuring the water required to maintain this pressure. The amount of water required is a measure of the leakage.
5. The amount of leakage that will be permitted shall be in accordance with AWWA C600 Standards for all pressure lines. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{SD\ (P)^{0.5}}{133{,}200}$$

In which "L" is the allowable leakage, in gallons per hour; "S" is the length of pipe tested, in feet; "D" is the nominal diameter of the pipe, in inches; and ` P" is the average test pressure during the leakage test, in pounds per square inch gauge.

6. The Contractor may backfill the trench before he tests the line if he so desires, but he shall open up the trench at his own expense to repair any leaks.
7. The Contractor must submit his plan for testing to the City of Roswell for review at least three (3) days before starting the test. The Contractor shall remove and adequately dispose of all temporary blocking material and equipment after completion and acceptance of the field hydrostatic test, unless otherwise directed by the City of Roswell. The Contractor shall repair any damage to the pipe coating. Lines shall be totally free and clean prior to final acceptance.

D. Cleaning Mains

1. At the conclusion of the Work, the Contractor shall thoroughly clean the new pipeline by flushing with water or other means to remove all dirt, stones, and pieces of wood or other material that may have entered during the construction period. If, after this cleaning, obstructions remain they shall be removed.

E. Disinfection

1. Upon completion of the pressure and leak-age test, the section of pipe to be disinfected shall be initially flushed using potable water. Flushing shall be accomplished at a minimum velocity of 2.5 feet per second and shall continue until the water runs clear.
2. Disinfection shall be accomplished by the continuous feed chlorination method in accordance with AWWA, A C601. The following steps shall be employed:
    a. Begin filling main at a constant, measured rate with potable water. As water first flows in, begin adding chlorine at a point no more than ten feet from the beginning of the new main.
    b. Add chlorine at a rate to attain a 50 mg/I chlorine concentration. The acceptable method is by preparing a 1% solution with sodium hypochlorite or calcium hypochlorite.
    c. Continue adding chlorine at a rate to attain a minimum concentration of 50 mg/I. Measure the rate at regular intervals as given in AWWA M12 or with a high range test kit. Chlorine application shall continue until the entire main is filled.
    d. The chlorinated water shall be retained in the water main for a minimum of 24 hours. At the end of the 24-hour period the water in all portions of the main shall have a minimum chlorine residual of 10 mg/I.
    e. The heavily chlorinated water shall be flushed in a manner that is not detrimental to the environment. The method proposed shall be submitted to and approved by the City of Roswell prior to discharge. Final flushing shall continue until the chlorine residual is less than 1 mg/I.
    f. Contractor shall coordinate sampling with the City of Roswell. No earlier than 16 hours after final flushing, the City of Roswell will obtain bacteriological samples for testing.
    g. If bacteriological test results are unsatisfactory, the Contractor shall either flush the main with potable water or re-disinfected, as directed by the City of Roswell, prior to obtaining additional samples. Satisfactory bacteriological test results shall be obtained prior to placing the new main in service.
3. Chlorine and water for flushing, testing, and chlorination shall be furnished and paid for by the Contractor.

F. Separation of Water and Sewer Lines
1. There shall be no physical connection between a drinking water supply line and a sewer or appurtenance.
2. Water lines shall be laid at least ten (10) feet horizontally from a sewer or a sewer manhole whenever possible; the distance shall be measured edge-to-edge. When local conditions prevent a horizontal separation of ten (10) feet, the water line may be laid closer to a sewer or sewer manhole provided that:
    a. The bottom (invert) of the water main shall be at least eighteen (18) inches above the top (crown) of the sewer.
    b. Where this vertical separation cannot be obtained, the sewer shall be constructed of ductile iron pipe and pressure tested in place without leakage prior to backfilling.
    c. The water line shall be laid in separate trenches or on an undisturbed earth shelf.
3. Where possible the water main shall pass over the sewer main with a vertical separation of at least eighteen (18) inches. When local conditions prevent a vertical separation of eighteen (18) inches between the bottom of the water main and the top of the sewer the following construction standards shall be used:
    a. The sewer shall be constructed of ductile iron pipe and pressure tested in place without leakage prior to backfilling.
    b. Adequate structural support for both the water and sewer mains shall be provided to prevent settling and excessive deflection of the joints.

c. That length of sewer main shall be centered at the point of the crossing such that the joints shall be equidistant from the point of crossing.

d. No deflection of the joints is permitted within ten (10) feet of the point of crossing.

G. Repair and Replacement

1. Any cracked or broken material, such as pipe, fittings, valves, or hydrants, shall be removed and replaced with sound pieces. Joints that leak shall be carefully remade. Remade joints and replaced material shall be re-tested under the same conditions of operation. If joints or materials are then found to be defective, they shall be remade and replaced until the line passes the required test.

2. Upon completion of back-filling and consolidation of the back-fill, all pavements removed for construction of the pipelines and appurtenance shall be replaced also and all pavements adjacent to pipe trenches, which may have been disturbed or damaged as the result of construction operations shall be removed and replaced and a load test conducted to prove proper consolidation of back-fill to sustain a load of 2500 pounds per square foot without undue settlement. Replacement shall be in accordance with the regulations of the State Highway Department and the City of Roswell.

3. Pavement, including driveways, shall be replaced to a minimum width of nine inches beyond the top edges of each side of the trench excavation to allow solid bearing and to the depth as follows:

a. Concrete pavement shall be replaced with a minimum depth of eight inches of concrete having a minimum compressive strength of 3000 psi in 28 days.

b. Asphalt paving shall be replaced with eight inch concrete base with plant mix surface equal to the thickness of the existing, but a minimum of one inch or as specified in Table 400.05D.1 of the GDOT standard construction specifications. Street cuts that exceed 150 feet shall be topped for the full width of the road.

c. Driveways and sidewalks shall be replaced with the same as existing material.

** END OF SECTION **

General Decision Number: GA170259 01/06/2017 GA259

Superseded General Decision Number: GA20160259

State: Georgia

Construction Type: Highway

County: Fulton County in Georgia.

HIGHWAY CONSTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of $10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017

SUGA2014-081 10/03/2016

	Rates	Fringes
CARPENTER, Includes Form Work	$ 15.74	0.00
CEMENT MASON/CONCRETE FINISHER	$ 15.33	0.00
FENCE ERECTOR	$ 16.54	0.00
HIGHWAY/PARKING LOT STRIPING: Operator (Striping Machine)	$ 13.25	2.69
INSTALLER - GUARDRAIL	$ 14.95	0.00
INSTALLER - SIGN	$ 13.03	0.00
IRONWORKER, REINFORCING	$ 14.64	0.00
IRONWORKER, STRUCTURAL	$ 15.12	0.00
LABORER: Concrete Paving Joint Sealer	$ 17.66	0.00
LABORER: Grade Checker	$ 11.45	0.00
LABORER: Mason Tender - Brick	$ 11.61	0.00
LABORER: Mason Tender - Cement/Concrete	$ 12.32	0.00
LABORER: Pipelayer	$ 12.34	0.00
LABORER: Asphalt (Includes		

Distributor, Raker, Screed, Shoveler, and Spreader).....$ 13.87 0.00

LABORER: Common or General, Includes Erosion Control.....$ 11.21 0.00

OPERATOR: Backhoe/Excavator/Trackhoe.....$ 17.52 2.70

OPERATOR: Bobcat/Skid Steer/Skid Loader.....$ 13.38 0.00

OPERATOR: Broom/Sweeper.....$ 14.83 1.38

OPERATOR: Bulldozer.....$ 15.68 1.25

OPERATOR: Compactor.....$ 14.64 0.00

OPERATOR: Concrete Saw.....$ 18.94 0.00

OPERATOR: Crane.....$ 21.08 0.00

OPERATOR: Distributor.....$ 16.69 1.01

OPERATOR: Grader/Blade.....$ 18.48 0.00

OPERATOR: Hydroseeder.....$ 15.20 0.00

OPERATOR: Loader.....$ 13.64 0.94

OPERATOR: Mechanic.....$ 19.01 0.00

OPERATOR: Milling Machine Groundsman.....$ 13.43 1.24

OPERATOR: Milling Machine.....$ 17.02 2.39

OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....$ 17.03 0.00

OPERATOR: Piledriver.....$ 16.70 0.00

OPERATOR: Roller.....$ 13.32 0.84

OPERATOR: Scraper.....$ 12.64 0.00

OPERATOR: Screed.....$ 15.18 1.66

OPERATOR: Shuttle Buggy.....$ 14.06 1.98

PAINTER: Spray.....$ 23.30 0.00

TRAFFIC CONTROL: Flagger.....$ 11.95 0.00

TRAFFIC CONTROL: Laborer-Cones/ Barricades/Barrels - Setter/Mover/Sweeper.....$ 12.66 0.00

TRAFFIC SIGNALIZATION: Laborer.....$ 14.00 1.08

TRAFFIC SIGNALIZATION: Electrician.....$ 24.72 5.26

TRUCK DRIVER: Dump Truck.....$ 16.41 0.00

TRUCK DRIVER: Flatbed Truck.....$ 14.91 1.07

TRUCK DRIVER: Hydroseeder Truck.....$ 16.74 0.00

TRUCK DRIVER: Lowboy Truck.....$ 18.98 0.00

TRUCK DRIVER: Off the Road Truck.....$ 12.38 0.00

TRUCK DRIVER: Pickup Truck.....$ 13.29 0.00

TRUCK DRIVER: Water Truck.....$ 13.23 0.00

TRUCK DRIVER: Semi/Trailer Truck.....$ 16.26 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or

"UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on

a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

LOCATE EXISTING SERVICE CONNECTION AND CUT AND PLUG

10'x10' RECEIVING PIT (NOTE 3)

(1) 12"x8" TAPPING SLEEVE
(1) 8" GATE VALVE AND VALVE BOX
(2) 8" RJ 90° BEND
(2) THRUST BLOCK
(1) WET TAP

APPROXIMATELY 55 L.F. OF 16" STEEL CASING PIPE INSTALLED BY JACK AND BORE

EXISTING 12" WATER LINE

LOCATE EXISTING WATER LINE CONNECTIONS AND CUT AND PLUG

NORCROSS STREET (VARIABLE ROW)

100 YR. FLOODPLAIN

REMOVE EXISTING WATER METER AN METER BOX

LIMIT OF DISTURBANCE (TYP.)

DOUBLE ROW SILT FENCE Sd1-C

NOTE 4

NEW WATER METER AND NEW ¾" COPPER SERVICE LINE. CONNECT TO EXISTING SERVICE LINE.

BORE PIT

36in OAK

REPLACE CURB AND GUTTER FROM RADIUS AT CORNER OF NORCROSS STREET TO DRIVEWAY

MILL AND RESURFACE ONE LANE FROM NORCROSS STREET TO 25 FEET BEYOND POINT WHERE WATER LINE CROSSES OUT OF ROADWAY.

EXISTING 2" WATER LINE TO BE ABANDONED

TOP OF BANK

25 FT. BUFFER

50 FT. BUFFER

75 FT. BUFFER

100 FT. BUFFER

150 FT. BUFFER

¾" COPPER SERVICE LINE (TYP.)

(2) 8" RJ 22.5° BEND
(2) CONCRETE THRUST BLOCK

LIMIT OF DISTURBANCE (TYP.)

REPLACE CURB AND GUTTER AS REQUIRED

APPROXIMATELY 40 L.F. UNCASED BORE

NEW 8" DIP WATER LINE. LOCATE 2 FEET BEHIND BACK OF CURB.

NEW WATER METER (TYP.)

LIMIT OF DISTURBANCE (TYP.)

ABANDON EXISTING WATER LINE

APPROXIMATELY 30 L.F. UNCASED BORE

SILT FENCE Sd1-C

(1) 8"x2" TAPPING SADDLE
(1) 2" GATE VALVE WITH VALVE BOX

APPROXIMATELY 32 L.F. UNCASED BORE

GRAVEL BAGS Sd2-P

BORE UNDER CONCRETE FLUME

NEW 2" CROSSLINKED POLYETHYLENE WATER LINE

(1) 8"x2" TAPPING SADDLE
(1) 2" GATE VALVE WITH VALVE BOX

30in OAK
20in OAK
24in OAK

MATCHLINE A

N

0 20' 40'

NOTES:

1. CONTRACTOR SHALL CONNECT ALL WATER METERS TO NEW WATER LINE WHETHER THEY ARE SHOWN ON THE DRAWINGS OR NOT.
2. LONG SERVICE CONNECTIONS SHALL BE INSTALLED IN A 2" PVC CASING PIPE ACROSS ROADWAY.
3. AFTER ROAD IS REPAIRED, CONTRACTOR SHALL RESTRIPE CROSSWALK, TURN LANE, AND ANY OTHER ROADWAY MARKINGS THAT ARE DAMAGED BY CONSTRUCTION. STRIPING SHALL BE IN ACCORDANCE WITH GDOT STANDARD SPECIFICATIONS.
4. CONTRACTOR SHALL ADD SELECT FILL TO ERODED AREA BEHIND CURB AND SOD PER EASEMENT AGREEMENT. FINISHED GRADE SHALL SLOPE 2-PERCENT AWAY FROM BACK OF CURB. EXTENT OF FILL IS BETWEEN NORCROSS ROAD AND DRIVEWAY TO 20 FEET BEHIND BACK OF CURB.
5. CONTRACTOR SHALL BORE UNDER DRIVEWAYS AND WALK WAYS.

GEORGIA REGISTERED PROFESSIONAL ENGINEER W. SCOTT HENNESSEY

ESI
ENGINEERING STRATEGIES, INC.
3855 SHALLOWFORD ROAD, SUITE 525
MARIETTA, GA 30062
(770) 429-0001

L:\Roswell\Millbrook Circle\Dwg\Sheets\CS - Site Plan.dwg - 10/13/2017

PROJECT NUMBER: ----
DATE: AUGUST 2017

	REVISION	DATE
1	ADDENDUM NO. 1	10/13/2017

DSGN:
DRWN:
CHCK:

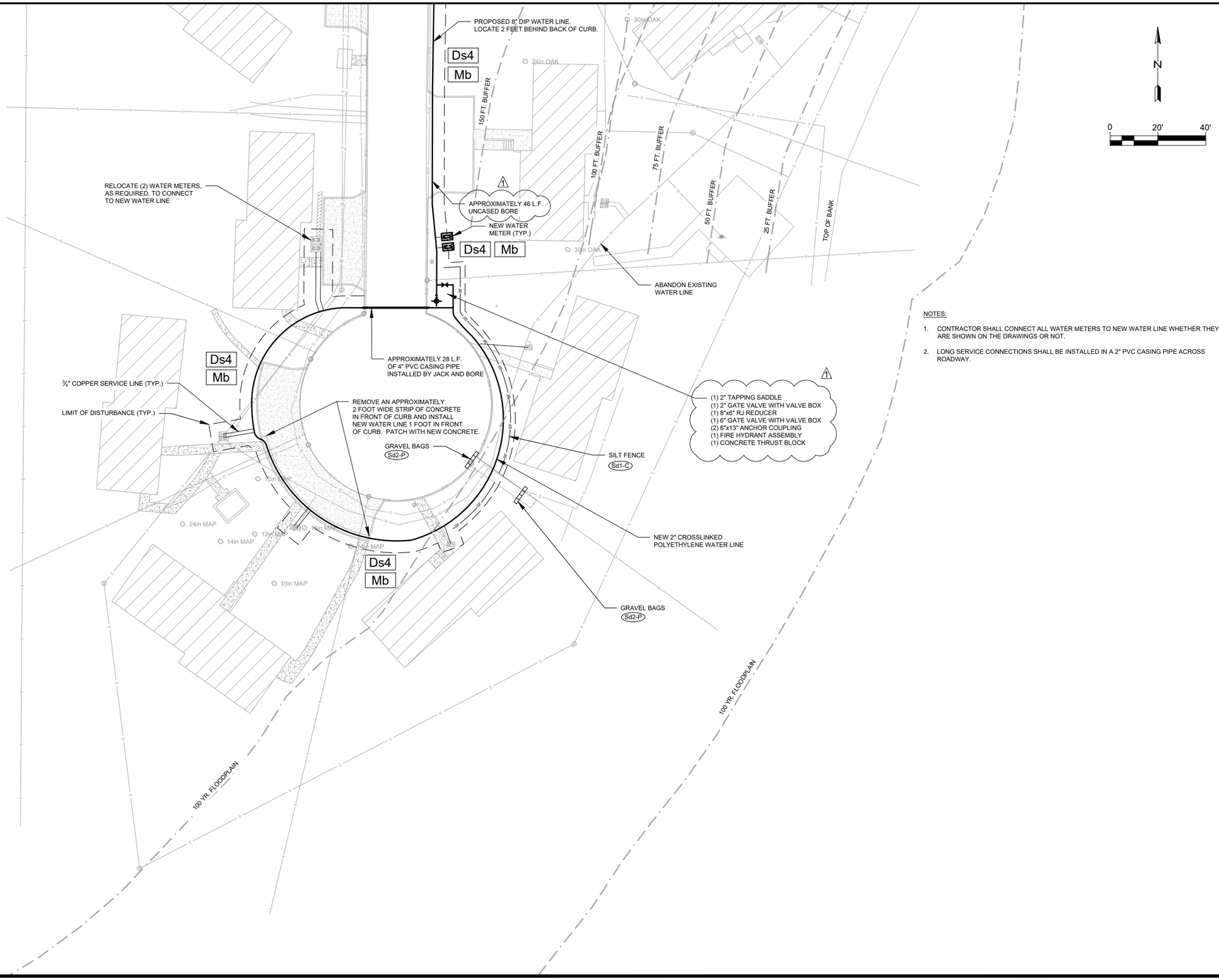
BAR BELOW IS 1" LONG FOR SCALES SHOWN ON THIS SHEET. IF NOT 1" LONG ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

SITE PLAN 1

SHEET NO.
2

MATCHLINE A



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GEORGIA REGISTERED PROFESSIONAL ENGINEER W. SCOTT HENNESSEY

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ENGINEERING STRATEGIES, INC.
3855 SHALLOWFORD ROAD, SUITE 525
MARIETTA, GA 30062
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L:\Roswell\Millbrook Circle\Dwg\Sheets\CS - Site Plan.dwg - 10/13/2017

DATE: AUGUST 2017

PROJECT NUMBER: ----

	REVISION	DATE
1	ADDENDUM NO. 1	10/13/2017

DSGN:
DRWN:
CHCK:

BAR BELOW IS 1" LONG. FOR SCALES SHOWN ON THIS SHEET. IF NOT 1" LONG ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

CITY OF ROSWELL, GEORGIA
MILLBROOK CIR. WATER MAIN REPLACEMENT

SITE PLAN 2

SHEET NO.
3