

**BID DOCUMENT PACKAGE**

**FOR**

**INVITATION TO BID (ITB) NO. 16-100761**

**FOR**

**YELLOW RIVER FORCE MAIN REPLACEMENT 2016**

**DEKALB COUNTY, GEORGIA**

**1300 Commerce Drive**

**Decatur, Georgia 30030**

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**ACKNOWLEDGEMENT OF BIDDER**

I \_\_\_\_\_ have had the opportunity to review and have reviewed this Bid Document Package dated \_\_\_\_\_, 20\_\_ in its entirety and I agree that it is accurate and complete. I \_\_\_\_\_ am duly and properly in office and I am fully authorized and empowered to execute this Acknowledgement for and on behalf of the Contractor.

By: \_\_\_\_\_(SEAL)  
Signature

\_\_\_\_\_  
Name (Typed or Printed)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Name of Business

\_\_\_\_\_  
Federal Tax I.D. Number

**ATTEST:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (Typed or Printed)

\_\_\_\_\_  
Title

**ADVERTISEMENT FOR BIDS**

**DEKALB COUNTY, GEORGIA**

**INVITATION NUMBER: 16-100761**

Sealed Bids will be received by DeKalb County, Georgia, in the Department of Purchasing and Contracting, The Maloof Center, 2<sup>nd</sup> Floor, 1300 Commerce Drive, Decatur, Georgia 30030, until 3:00 p.m. on the 21th day of November, 2016, at which time and place they will be publicly opened and read aloud, for furnishing all labor, materials, equipment, and all things necessary pursuant to Drawings, Specifications, conditions, etc., for Yellow River Force Main Replacement 2016.

**ONE ORIGINAL BID AND TWO IDENTICAL COPIES MUST BE SUBMITTED ON THE DATE AND AT THE TIME AND PLACE PRESCRIBED ABOVE.**

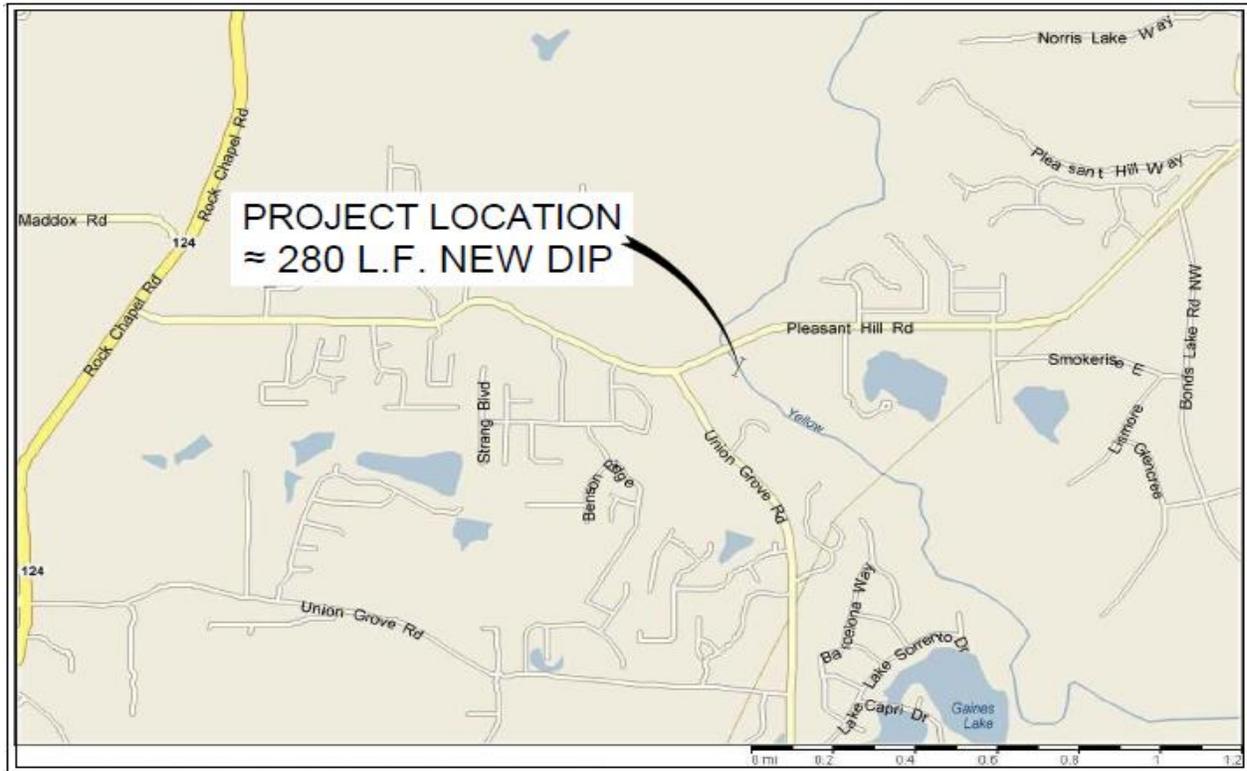
Contract Documents, Drawings, and Specifications for this Work are on file and open for inspection at AGC Builders Exchange, 1940 The Exchange SE, Suite 300, Atlanta, Georgia 30339 (or at the AGC of Georgia Internet Plan Room at [www.agcga.org](http://www.agcga.org)); National Association of Minority Contractors – Atlanta Chapter, 4251 East Side Drive, Decatur, Georgia 30034; Reed Construction Data, 30 Technology Parkway South, Suite 100, Norcross, GA 30092; and the Department of Purchasing and Contracting, The Maloof Center, 2<sup>nd</sup> Floor, 1300 Commerce Drive, Decatur, Georgia 30030. A complete set of documents may be obtained from River To Tap, 1841 Peeler Rd., Unit C, Atlanta, GA 30338.

Bids will be considered only from experienced and well-equipped contractors.

**MANDATORY PRE-BID CONFERENCE AND SITE VISIT**

A mandatory pre-bid conference and site visit will be held at 11:00 a.m. on the 7<sup>th</sup> day of November, 2016 at Road Haven Annex, 1641 Road Drive, Stone Mountain, GA 30083; site visit will be held immediately after pre-bid conference. Bidders are required to attend and participate in the mandatory pre-bid conference and site visit. Bidders shall sign in at the mandatory pre-bid meeting and site visit as proof of attendance. Only the Bidder or its authorized representative or employee shall sign in at the mandatory pre-bid meeting and site visit. For individual firms

planning to bid as a yet to be formed joint venture, a representative from each firm is required to attend and sign in. Failure of a Bidder to attend or sign in at the mandatory pre-bid conference and site visit, may be cause for rejection of Bid. For information regarding the mandatory pre-bid conference and site visit, please contact Vearnetta Rivers, Senior Procurement Agent, Contract Administrator at (404)371-2936 and [vrivers@dekalbcountyga.gov](mailto:vrivers@dekalbcountyga.gov).



## LOCATION MAP

### QUESTIONS

All questions concerning the Project and requests for interpretation of the Contract may be asked and answered at the pre-bid conference; however, oral answers are not authoritative. Questions must be submitted to the Department of Purchasing and Contracting in writing by one of the following methods: in person at the Maloof Center, 2<sup>nd</sup> Floor, 1300 Commerce Drive, Decatur, Georgia 30030, via email to [vrivers@dekalbcountyga.gov](mailto:vrivers@dekalbcountyga.gov), or via facsimile to 404-371-6327, no later than close of business on November 14, 2016. Questions and requests for interpretation received by the Department of Purchasing and Contracting after this date will not receive a response or be the subject of addenda.

No Bid may be revoked or withdrawn until sixty (60) days after the time set for opening the Bids.

**THE COUNTY RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS, TO WAIVE INFORMALITIES IN BIDDING, AND TO READVERTISE.**

This 10<sup>th</sup> day of October, 2016.

**DEKALB COUNTY, GEORGIA**

By: \_\_\_\_\_  
Vearnetta Rivers, CPPB  
Sr. Procurement Agent  
Department of Purchasing and Contracting

## **INSTRUCTIONS TO BIDDERS**

### **GENERAL**

Sealed Bids will be received by DeKalb County, Georgia, in the Department of Purchasing and Contracting, The Maloof Center, 2<sup>nd</sup> Floor, 1300 Commerce Drive, Decatur, Georgia 30030, until 3:00 p.m. on the 17<sup>th</sup> day of November, 2016, for Yellow River Force Main Replacement 2016 according to the Drawings and Specifications entitled Yellow River Force Main Replacement 2016 on file in the Watershed Management and the Department of Purchasing and Contracting, The Maloof Center, 2<sup>nd</sup> Floor, 1300 Commerce Drive, Decatur, Georgia 30030. Sealed Bids shall be submitted on the form furnished by the County and shall be submitted in **triplicate**, designated as original or copy. **ONE ORIGINAL BID AND TWO IDENTICAL COPIES MUST BE SUBMITTED ON THE DATE AND AT THE TIME AND PLACE PRESCRIBED ABOVE.** Complete Drawings. Bids will be considered only from experienced and well-equipped contractors. Prior to beginning construction, the successful Bidder will file with the County a Performance Bond and a Payment Bond, each equal to 100% of the Contract Price, with the terms and surety to be approved by the County; and furnish satisfactory proof of carriage of the insurance required.

### **SUBMITTING BIDS**

Bids are to be submitted on the proper unaltered forms, and shall be addressed to the DeKalb County Department of Purchasing and Contracting, The Maloof Center, 2<sup>nd</sup> Floor, 1300 Commerce Drive, Decatur, Georgia 30030, sealed, dated and enclosed in an envelope or package appropriately marked on the outside with the name of the Bidder, the date and hour of opening, and the Invitation to Bid Number and Project Name.

### **BUSINESS LICENSE**

Bidders are requested to submit a copy of its current, valid business license with its Bid. If the Bidder is a Georgia corporation, Bidders are requested to submit a valid county or city business license. If Bidder is a joint venture, Bidders are requested to submit valid business licenses for each member of the joint venture. If the Bidder is not a Georgia corporation, Bidder are requested to submit a certificate of authority to transact business in the state of Georgia and a copy of its current, valid business license issued by its home jurisdiction. If Bidder holds a

professional license, then Bidder are requested to submit a copy of the valid professional license. Failure to provide the business license, certificate of authority, or professional license required by this section, may result in the proposed Bid being deemed non-responsive.

### **UTILITY SYSTEMS CONTRACTOR'S LICENSE**

As required by O.C.G.A. § 43-14-8, *et seq.*, a Bidder responding to this Invitation to Bid must provide a copy of its or its subcontractor's Georgia Utility Systems Contractor's License, Utility Manager's Certificate, and Utility Foreman's Certificate in a separate sealed envelope. All licenses and certificates must be issued in the name of the person or entity that will perform the utility work. If a subcontractor's Georgia Utility Systems Contractor's License is submitted with the Bid, the subcontractor must be listed as such on appropriate Bidder's Lump Sum Price Form Bidder's Unit Price Form. All licenses and certificates must be current, valid, and issued in compliance with applicable law. Failure to provide this license and necessary certificates in this format may result in the proposed Bid being deemed non-responsive.

### **GENERAL CONTRACTOR'S LICENSE NUMBER**

As required by O.C.G.A. § 43-41-6, *et seq.*, a Bidder responding to this Invitation to Bid must provide a copy of its Georgia General Contractor's License. The Georgia General Contractor's License must be issued in the name of the Bidder or in the name of its qualifying agent. If a proposed Bidder is relying upon a qualifying agent's Georgia General Contractor's License, then the name of the proposed Bidder must be set forth on the license as an affiliated business organization/dependent licensee. All licenses must be current, valid, and issued in compliance with applicable law. Failure to provide this license with the Bid may result in the proposed Bid being deemed non-responsive.

### **QUESTIONS, ADDENDA AND INTERPRETATION**

All questions concerning the Project and requests for interpretation of the Contract may be asked and answered at the pre-bid conference; however, oral answers are not authoritative. Questions must be submitted to Vearnetta Rivers at [vrivers@dekalbcountyga.gov](mailto:vrivers@dekalbcountyga.gov), the Maloof Center, 2<sup>nd</sup> Floor, 1300 Commerce Drive, Decatur, Georgia 30030, in writing no later than close of business

on November 14, 2016. Questions and requests for interpretation received by Director of the Department of Purchasing and Contracting after this date will not receive a response or be the subject of addenda. Other than questions asked and answered at the pre-bid conference, no answer to a question or interpretation of the meaning of the Contract will be made orally to any Bidder. For questions and requests for interpretation after the pre-bid conference, each response shall be given in written addendum, separately numbered and dated, and published on the County website in sufficient time for interested parties to review. The County shall be the sole determiner of sufficiency of time.

### **ACKNOWLEDGMENT OF ADDENDA**

Addenda may be issued in response to changes in the Invitation to Bid. Addenda must be acknowledged by signing and returning the Addendum Acknowledgement with the Bid. Acknowledgments must be received by the County at or before the Bid opening time and date. Failure to properly acknowledge any addendum may result in the proposed Bid being deemed non-responsive. All addenda issued for this Project may be found on DeKalb County's website, <http://www.dekalbcountyga.gov/purchasing/index.htm>.

### **AUTHORITY TO SIGN**

If a Bid is submitted by an individual, his/her name and mailing address must be shown. If submitted by a corporation, partnership, or joint venture, the name and physical mailing address of each member of the corporation, partnership, or joint venture must be shown. If submitted by a corporation, the Certificate of Corporate Bidder in the form attached to the Bid Document Package must be executed and submitted with the Bid. If submitted by a joint venture, the Certificate of Authority – Joint Venture in the form attached to the Bid Document Package must be executed and submitted with the Bid. A post office box is not acceptable as a physical mailing address. The legal and proper name of the proprietorship, corporation, or partnership submitting the Bid shall be printed or typed in the space provided on the Certificate of Corporate Bidder.

**BID GUARANTEE TO ACCOMPANY BID**

Each Bid must be accompanied by a Bid Guarantee in an amount of not less than ten percent (10%) of the amount of the Bid. The Bid Guarantee may be in the form of an official bank check payable to DeKalb County, or a Bid Bond in the form provided in the Bid Document Package. The Bid Bond shall be issued by a surety company licensed to write bonds in the State of Georgia, listed in the most current U.S. Treasury Circular No. 570, and have a current A.M. Best rating of "A" (Excellent) with a Financial Size Category of XII or better.

**VALID INSURANCE, BONDS, LICENSES, PERMITS, AND CERTIFICATES**

Bidder shall ensure that any bond, bid bond, payment bond, performance bond, insurance, license, permit or certificate submitted in response to this Invitation to Bid or as part of the Contract for this Project shall be current and valid when submitted, and shall remain valid, current and maintained in good standing for the Contract Term.

**BUILDERS' RISK INSURANCE COVERAGE**

DeKalb County shall procure and maintain Builders Risk Insurance on the entire work which provides "All-risk" form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism, malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than caused by flood), and such other perils or causes of loss as may be specifically required by Supplementary Conditions) until Final Completion and Acceptance of the Project. Such policy of insurance shall contain at least the following sub-limits of insurance and deductibles:

Sub-limits:	
Property in Transit	\$1,000,000
Property in Offsite Storage	\$1,000,000
Plans & Blueprints	\$25,000
Debris Removal	25% of Insured Physical Loss

Delay in Completion / Soft Cost	TBD
Ordinance of Law (Increased Cost of Construction)	\$1,000,000
Flood and Earthquake	TBD – Full Contract Value
<b>Deductibles:</b>	
Flood and Earthquake	\$25,000
Water Damage other than Flood	\$100,000
All other Perils	\$10,000

## **RIGHTS RESERVED**

The County reserves the right to reject any or all Bids, to waive formalities, and to re-advertise. The County reserves the right to decide which Bid will be deemed lowest and best. For consideration as a responsible Bidder, the proposed Bidder shall, among other qualifications, demonstrate in its Bid that it has been the general contractor engaged in construction and successful completion of facilities of similar character and magnitude for at least five (5) years, and shall demonstrate the financial ability to perform the required Work. Bidder may be required to submit evidence setting forth qualifications which entitle him to consideration as a responsible Bidder. A list of work of similar character successfully completed within the last three (3) years may be required as set forth in the Invitation to Bid giving the location and size of each project. Bidder shall complete the Reference and Release Form attached to the Bidder Document Package. In addition, the Bidder shall submit upon request by the County, a list of equipment available for use on this Work with its Bid. Any additions, conditions, limitations, or provisions attached to the Bid shall render it informal, and may be cause for rejection as non-responsive. No Bid may be revoked or withdrawn until sixty (60) days after the time set for opening the Bids.

## **AWARD OF CONTRACT**

The Contract, if awarded, will be awarded to that responsible Bidder whose responsive Bid will be most advantageous to the County, price and other factors considered. The County is entitled to make the determination in its sole discretion. The Contract between the County and the Contractor shall be executed in the form attached to the Bid Document Package as Exhibit 1, and shall form a binding contract between the contracting parties. A Performance Bond and a Payment Bond, each equal to 100% of the Contract Price, must be provided by the successful

Bidder, issued in proper form by a surety company licensed to write bonds in the State of Georgia, listed in the most current U.S. Treasury Circular No. 570, and which has a current A.M. Best rating of "A" (Excellent) with a Financial Size Category of XII or better. Bonds given shall meet the requirements of the law of the State of Georgia including, but not limited to, O.C.G.A. §13-10-1 and §36-91-21 *et seq.*

### **FAILURE TO EXECUTE CONTRACT**

The County shall have sixty (60) days after the time set for openings of Bids to notify a Bidder of the County's acceptance of the Bid and its intent to award the Contract to such Bidder. If the County so notifies a Bidder and the Bidder fails to enter into the Contract in the form attached to the Bid Document Package as Exhibit 1 within ten (10) days of receiving such notice, or fails within that time to provide the required Payment and Performance Bonds and proof of required insurance, the amount of the Bid Bond or other Bid Guarantee shall be paid over to the County as liquidated damages. The acceptance of the payment of the Bid Bond shall not operate to bar any claim the County might otherwise have against the Bidder, and the County shall be authorized to pursue any claim against the Bidder for failure to consummate the Contract as may be authorized by law.

### **TIME AND LIQUIDATED DAMAGES**

Construction must begin within ten (10) days from the date the Contractor acknowledges receipt of the Notice to Proceed, by signing and inserting the acknowledgement date on the Notice to Proceed. Contractor shall fully complete the Work within ninety (90) days from and including the acknowledgement date. For failure to complete the Work within this period, the Contractor shall pay the County liquidated damages in the amount of One Thousand Dollars (\$1,000.00) for each day in excess of the Contract Time unless an extension of the Contract Time has been obtained by Change Order, as defined in the Contract, prior to the expiration of the Contract Term as defined in the Contract.

## **LOCATIONS AND SITE**

The site of the proposed Work is at the stated location(s) within DeKalb County, Georgia. By submitting a Bid, the Bidder accepts the site in its present condition and agrees, if awarded the Contract, to carry out all Work in accordance with the requirements of the Contract, the Specifications and as shown on the Drawings. The Bidder shall, before submitting a Bid, visit the site and acquaint itself with the actual conditions and the location of any or all obstructions that may exist on the site. The documents comprising the Contract contain the provisions required for the completion of the Work to be performed pursuant to this Contract. Information obtained from an officer, agent, or employee of the County, or any other person shall not affect the risks or obligations assumed by the Contractor or relieve it from fulfilling any of the conditions of the Contract. Each Bidder, prior to submitting his Bid, is responsible for inspecting the site and for reading and being thoroughly familiar with all of the documents comprising the Contract and Bid Document Package. The failure or omission of any Bidder to so familiarize himself shall in no way relieve any Bidder from any obligation in respect to his Bid. The Contractor shall inspect all easements and rights-of-way to insure that the County has obtained all land and rights-of-way necessary for completion of the Work to be performed pursuant to the Contract. The Contractor shall comply with all stipulations contained in easements acquired by the County. If applicable to the Work, all easements and rights-of-way documents are available for inspection in the office of the DeKalb County GIS, 330 West Ponce De Leon Ave., 6<sup>th</sup> Floor, Decatur, GA 300330. The Contractor shall not be entitled to damages and agrees not to make any claim against the County, its officials or employees for the failure to obtain necessary interests in land for this Project. The Contractor shall accurately locate above-ground and below-ground utilities and structures which may be affected by the Work using whatever means may be appropriate.

## **LOCAL SMALL BUSINESS ENTERPRISE ORDINANCE**

The Chief Executive Officer and the Board of Commissioners of DeKalb County recognize that it is important to encourage small and local businesses to participate in the business of County government; participation of these types of businesses in procurement will strengthen the overall economic fabric of DeKalb County, contribute to the County's economy and tax base, and provide employment to local residents; therefore, the Chief Executive Officer and the Board of

Commissioners have made the success of local small businesses a permanent goal of DeKalb County by enacting the Local Small Business Enterprise Ordinance, Code of DeKalb County, as revised 1988, §2-200 *et seq.* (“LSBE Ordinance”) and implementing the LSBE program. For further details and an explanation of the LSBE Exhibits, please review the attached LSBE Program Information sheet which includes the required LSBE Exhibits. Bidders may also contact the County’s Contract Compliance Division of the Department of Purchasing and Contracting at [contract@dekalbcountyga.gov](mailto:contract@dekalbcountyga.gov) or 404-371-6395. The LSBE Program Information Sheet is a summary of the LSBE program and is provided as a service to potential County vendors. For the full and complete requirements of this program, potential vendors are directed to consult the LSBE ordinance itself. Completion of LSBE Exhibits A and B are MANDATORY. Failure to fully complete and submit LSBE Exhibits A and B with a Bid shall result in the Bid being rejected as non-responsive. Failure to fully complete and timely submit LSBE Exhibit C during the Contract Term may be cause for termination of the Contract. The County’s Certified Vendor List can be viewed on the County’s website at <http://www.dekalbcountyga.gov/purchasing/pdf/supplierList.pdf>.

### **FEDERAL WORK AUTHORIZATION PROGRAM PARTICIPATION**

All qualifying Contractors and Subcontractors performing work with DeKalb County, Georgia must register and participate in the federal work authorization program to verify the work eligibility information of new employees. In order for a Bid to be considered, it is mandatory that the Bidder’s Affidavit of Compliance with O.C.G.A. §13-10-91 included as page 28 be completed and submitted with the Bid.

### **GEORGIA OPEN RECORDS ACT**

Contractors will be expected to comply with the applicable provisions of the Georgia Open Records Act, O.C.G.A. §50-18-70 *et seq.*

## **FIRST SOURCE JOBS ORDINANCE**

The DeKalb County First Source Jobs Ordinance, Code of DeKalb County, as revised, 1988, §2-231 *et seq.* (“the First Source Jobs Ordinance”) requires Contractors and Beneficiaries of Eligible Projects as those terms are defined in First Source Jobs Ordinance now and as they may be amended hereafter, to make a good faith effort to hire DeKalb County residents for at least fifty percent (50%) of all jobs created by the Eligible Project using the First Source Register (candidate database). The Contractor and the Work to be performed under this Contract are subject to the provisions of the First Source Jobs Ordinance. A First Source Jobs Ordinance Acknowledgement Form is included in the Bid Document Package. The signer of this form acknowledges and agrees to comply with the provisions of the First Source Jobs Ordinance. For more information on the requirements of the First Source Jobs Ordinance, Bidders may contact DeKalb Workforce Development at 404-687-4099.

## **PREFERRED EMPLOYEES**

Contractors, subcontractors, and independent contractors bidding on this contract will be **encouraged** by DeKalb County to have 25% or more of their labor forces for this project consist of Preferred Employees selected from the First Source Registry. The First Source Registry has Preferred Employees trained by U.S. Department of Labor registered apprenticeship programs and other partners. A Preferred Employee Tracking Form is included in the Bid Document Package on the next page.

For information on Preferred Employees, please contact the DeKalb County Workforce Department by telephone at 404-687-3428 or in person at 320 Church Street, Decatur, GA 30030.



Invitation No. 16-100761

**BIDDER'S LUMP SUM PRICE**

TO: The Governing Authority of DeKalb County, Georgia

The undersigned, as Bidder, declares that he has carefully examined the Bid Document Package for ITB No.:16-100761 (Yellow River Force Main Replacement 2016), an annexed proposed form of Contract, the Specifications therein contained, and the Drawings therein referred to, and that he proposes and agrees that if his Bid is accepted, to provide the necessary machinery, tools, apparatus, and other means of construction, and will furnish all materials and labor specified in the Contract, or called for by the Drawings, or necessary to complete the Work in the manner therein specified within the time specified, as therein set forth for the following lump sum amount which sum is hereinafter referred to as the "Base Bid." The Base Bid includes and encompasses the cost of all labor, materials, equipment, tools, supervision, scheduling, safety program, coordination, engineering, testing, surveys, layout, cleanup, and other things and services required to complete the entire Project in strict conformity with the Drawings, Specifications, the Contract, and all addenda and authorized written clarifications issued prior to the Bid date. Without limitation, the Base Bid also includes all applicable sales and use taxes, fees, temporary lighting, heating and cooling, temporary utilities, security for the site, freight costs, handling costs, permit costs, field and main office costs, bond premiums, insurance premiums, direct and indirect administrative costs, overhead, and profit.

\_\_\_\_\_ (\$ \_\_\_\_\_ )

(State amount in words on this line)

(In figures)

## BID SCHEDULE

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE
163-0232	Temporary Grassing	0.25	AC	
163-0240	Mulch	0.63	TN	
163-0300	Construction Exit	2	EACH	
165-0030	Maintenance of Silt Fence Type-C	3,902	LF	
165-0101	Maintenance of Construction Exit	2	EACH	
167-1000	Water Quality Monitoring and Sampling	1	EACH	
167-1500	Water Quality Inspections	6	MO	
171-0030	Temporary Silt Fence, Type-C	3,902	LF	
700-6910	Permanent Grassing	0.25	AC	
700-7000	Agricultural Lime	0.38	TN	
700-8000	Fertilizer Mixed Grade	0.19	TN	
700-8100	Fertilizer Nitrogen Content	6.25	LB	
700-9400	Native Restoration and Riparian Seeding	0.25	AC	
702-7501	Tree Protection Barrier, Type 1	1,500	LF	
210-0100	Grading Complete	1	LS	
310-5080	Graded Aggregate Base 8-Inch Thick	257	CY	
500-3101	Class A Concrete	10	CY	
615-100	Jack and Bore Pipe	230	LF	
660-0804	Sanitary Sewer Pipe 4 Ductile Iron	300	LF	
660-1150	Cut & Plug Existing Force Main	2	EACH	
660-1915	Gate Valve, 4"	2	EACH	
660-2040	Air Release Valve Assembly	1	EACH	
660-2115	Swing Check Valve, 4"	2	EACH	
660-2215	Eccentric Plug Valve, 4" with Hand Wheel	2	EACH	
660-2215	MJ Plug Valve, 4"	2	EACH	
660-2315	Insertion Valve, 4" Gate Valve	2	EACH	
660-3550	Rock Excavation	300	CY	
670-7000	Steel Casing, 18"	230	LF	
660-3500	Replacement of Unsuitable Trench Material	625	CY	
668-3300	Sanitary Sewer Manhole, 6'x6', Bottomless, 6' DIA Top, 2 Bottled Cover & Lips	2	EACH	
670-4490	Concrete Thrust Collar	2	EACH	
SP-2	CAM Lock Coupling	2	EACH	
SP-3	#57 Stone	25	CY	
SP-4	MICROTUNNELING Through Rock	230	LF	
BASE BID TOTAL			\$	_____

***Note: Microtunneling shall be used only if rock is encountered.***

These quantities are approximate and may be increased or decreased as to any and all units as necessary to complete the construction of said Project without entitling the Contractor to any claim for extra compensation because of any injury, damage or delay he may sustain on account of such increase or decrease. The Contractor shall be entitled to compensation on the foregoing unit prices only on the quantities of materials actually furnished and work actually done as determined and approved in writing by the County through an inspection of the work completed. In no event shall the County be liable for payment in excess of the total Bid amount of \$ (Insert same "TOTAL BID" figure as listed on the foregoing page) without proper prior written authorization via Change Order from the County. The Total Bid includes and encompasses the cost of all labor, materials, equipment, tools, supervision, scheduling, safety program, coordination, engineering, testing, surveys, layout, cleanup, and other things and services required to complete the entire Project in strict conformity with the Drawings, Specifications, the Contract, and all addenda and authorized written clarifications issued prior to the Bid date. Without limitation, the Total Bid also includes all applicable sales and use taxes, fees, temporary lighting, security for the site, heating and cooling, temporary utilities, freight costs, handling costs, permit costs, field and main office costs, bond premiums, insurance premiums, direct and indirect administrative costs, overhead, and profit.

Bidder has examined the site of the proposed Work and all documents comprising the Contract, and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the Contract.

No Bid may be revoked or withdrawn until sixty (60) days after the time set for opening the Bids.

Attached hereto is Bid Bond made by \_\_\_\_\_  
\_\_\_\_\_, a surety company listed in the most recent US Treasury Circular No. 570 and licensed to write surety bonds in the State of Georgia, payable to DeKalb County, Georgia (or an official bank check), in the amount of ten percent (10%) of the above Bid, to-wit: \$\_\_\_\_\_.

If this Bid shall be accepted by DeKalb County and the undersigned shall fail to execute a satisfactory contract in the form of said proposed Contract, give satisfactory Performance and Payment Bonds, or furnish satisfactory proof of the insurance required, as stated in the Instructions to Bidders within ten (10) days from the Notice of Award of the Contract, then the County may at its option, determine that the undersigned abandoned the Contract and thereupon this Bid shall be null and void, and the sum stipulated in the attached Bid Bond (or an official bank check) shall be forfeited to the County as liquidated damages.

Bidder declares his intent to subcontract the portion of the Work as below stated. Bidder understands and agrees that the use of any Subcontractor not listed below shall be strictly prohibited without prior written approval from the County. *(List names of all subcontractors and the work to be provided by the subcontractor on the lines provided below.)*

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Bidder further declares that the full names and residence addresses of all persons and parties interested in the foregoing Bid as principals are as follows:

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Bidder declares further that it is  / is not  a DeKalb County Firm.

Signed, sealed, and dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By: \_\_\_\_\_(SEAL)

Signature

\_\_\_\_\_  
Print Name of Signer

\_\_\_\_\_  
Title of Signer

\_\_\_\_\_  
Name of Business Entity Submitting Bid

\_\_\_\_\_  
Bidder's Street Address

\_\_\_\_\_  
Bidder's City, State and Zip Code

\_\_\_\_\_  
Bidder's Phone Number

\_\_\_\_\_  
Bidder's Fax Number

\_\_\_\_\_  
Bidder's E-Mail Address

Invitation No.: 16-100761

**FIRST SOURCE JOBS ORDINANCE ACKNOWLEDGEMENT**

Contract No. \_\_\_\_\_

**The DeKalb County First Source Ordinance** requires contractors or beneficiaries of eligible projects entering into any type of agreement with the County, including purchase orders, regardless of what they may be called, for the procurement or disposal of supplies, services, construction projects, professional or consultant services, which is funded in whole or part with County funds or County administered funds in which the contractor is to receive \$50,000 or more in County expenditures or committed expenditures and recipient of urban redevelopment action grants or community development block funds administered in the amount of \$50,000 or more to make a good faith effort to hire DeKalb County residents for at least 50% of jobs created using the First Source Registry (candidate database) within one hundred twenty (120) days of contract execution. The work to be performed under this contract is subject to the provisions of the DeKalb County First Source Jobs Ordinance. All contractors will be asked to submit an **Employment Roster** and/or copies of active payroll registers on a monthly basis to verify compliance. The undersigned acknowledges and agrees to comply with the provisions of the DeKalb County First Source Jobs Ordinance.

**CONTRACTOR OR BENEFICIARY INFORMATION:**

\_\_\_\_\_  
Contractor or Beneficiary Name (Signature)

\_\_\_\_\_  
Contractor or Beneficiary Name (Printed)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Telephone

\_\_\_\_\_  
Email

\_\_\_\_\_  
Name of Business

Please answer the following questions:

1. How many job openings do you anticipate filling related to this contract? \_\_\_\_\_

2. How many incumbents/existing employees will retain jobs due to this contract?

DeKalb Residents: \_\_\_\_\_ Non-DeKalb Residents: \_\_\_\_\_

**Please return this form to DeKalb Workforce Development, fax (404) 687-4099 or email to [FirstSourceJobs@dekalbcountyga.gov](mailto:FirstSourceJobs@dekalbcountyga.gov).**

**LSBE INFORMATION  
WITH EXHIBITS A – C**

**SCHEDULE OF LOCAL SMALL BUSINESS ENTERPRISE PARTICIPATION  
OPPORTUNITY TRACKING FORM**

The Chief Executive Officer and the Board of Commissioners of DeKalb County believe that it is important to encourage the participation of small and local businesses in the continuing business of County government; and that the participation of these types of businesses in procurement will strengthen the overall economic fabric of DeKalb County, contribute to the County’s economy and tax base, and provide employment to local residents. Therefore, the Chief Executive Officer and the Board of Commissioners have made the success of local small businesses a permanent goal of DeKalb County by implementing the Local Small Business Enterprise Ordinance.

**PROVISIONS OF LOCAL SMALL BUSINESS ENTERPRISE (LSBE) ORDINANCE**

Amount of LSBE Participation Required
20% of Total Award

	Request For Proposals (RFP)	Invitations To Bid (ITB)
LSBE Within DeKalb (LSBE-DeKalb)	Ten (10) Percentage Points	Ten (10) Percent Preference
LSBE Outside DeKalb (LSBE-MSA)	Five (5) Percentage Points	Five (5) Percent Preference

Certified Local Small Business Enterprises (LSBEs) located within DeKalb County and prime contractors utilizing LSBEs that are locally-based inside DeKalb County shall receive ten (10) percentage points in the initial evaluation of their response to any Request for Proposal and a ten (10) percent preference on all responses to any Invitation to Bid. Certified LSBEs located outside of DeKalb County but within the ten (10) County Metropolitan Statistical Area (MSA) consisting of Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry and Rockdale Counties shall receive five (5) percentage points in the initial evaluation of their response to any Request for Proposal and a five (5) percent preference on all responses to any Invitation to Bid.

For all qualified sealed solicitations, the Director of Purchasing and Contracting, DeKalb County Government, shall determine if the bidder/proposer has included written documentation showing that at least twenty percent (20%) of the total contract award will be performed by a certified LSBE. This written documentation shall be in the form of a notarized Schedule of LSBE Participation (Attached hereto as “Exhibit A”.) For all contracts, a signed letter of intent from all certified LSBEs describing the work, material, equipment and/or services to be performed or provided by the LSBE(s) and the agreed upon dollar value shall be due with the bid or proposal documents and included with “Exhibit A”. The certified vendor list compiled by the Contract Compliance Division, Purchasing and Purchasing and Contracting Department, DeKalb County

Government establishes the group of Certified LSBE's from which the bidder/proposer must solicit subcontractors for LSBE participation.

Contractors failing to meet the LSBE benchmark must document and demonstrate Good Faith Efforts in accordance with the attached "Checklist for Good Faith Efforts" portion of "Exhibit A." The notarized Schedule of LSBE Participation shall be due and submitted with each bid or proposal. Failure to achieve the LSBE benchmark or demonstrate good faith efforts shall result in a bid being rejected.

Upon award, Prime Contractors are required to submit a report detailing LSBE/Sub-Contractor usage with each request for payment and not less than on a monthly basis. Prime Contractors are also required to certify that all sub-contractors have been paid within seven (7) days of the Prime's receipt of payment from the County. Failure to provide requested reports/documentation may constitute a material breach of contract, entitling the County to terminate the Contract for default or pursue other remedies. LSBE sub-contractors must submit a detailed report of their sub-contracting activity for each County contract they participate in.

For eligible bids over \$5,000,000.00, The Director of Purchasing and Contracting or designee will determine if the Mentor-Protégé provision of the Ordinance will apply.

It is the objective of the Chief Executive Officer and Board of Commissioners of DeKalb County to provide maximum practicable opportunity for all businesses to participate in the performance of government contracts, including Local Small Business. To achieve this purpose, the County would like to track and record information about participating vendors. The attached "Exhibit A," also records who performs work and renders services to the County. Contractors are requested to indicate whether they are a LSBE and list the level of participation by subcontractors designated as such on each solicitation.

**EXHIBIT A**

**SCHEDULE OF LOCAL SMALL BUSINESS ENTERPRISE PARTICIPATION  
OPPORTUNITY TRACKING FORM**

As specified, Bidders and Proposers are to present the details of LSBE participation below:

PRIME BIDDER/PROPOSER \_\_\_\_\_  
SOLICITATION NUMBER: **16-100761**  
TITLE OF UNIT OF WORK – **Yellow River Force Main Replacement 2016**

1. My firm, as the prime bidder/proposer on this unit of work, is a certified (check all that apply):  
\_\_\_\_LSBE-DeKalb    \_\_\_\_LSBE-MSA
  
2. If you are a Certified LSBE please indicate below the portion of work (including the percentage of the amount bid/proposal) that your firm will carry out directly:  
\_\_\_\_\_.
  
3. If the prime bidder/proposer is a joint venture, please describe below the nature of the joint venture and level of work and financial participation to be provided by the LSBE-DeKalb or MSA joint venture firm.  
\_\_\_\_\_  
\_\_\_\_\_
  
4. List the LSBE-DeKalb or MSA, subcontractors and/or firms (including suppliers) to be utilized in of this contract, if awarded. No changes can be made in the subcontractors listed below without the prior written approval of the County. Please attach a signed letter of intent from all certified LSBEs describing the work, materials, equipment or services to be performed and/or provided and the agreed upon dollar value. A Letter of Intent form is attached hereto as “Exhibit B”.

Name of Company	
Address	
Telephone	
Fax	
Contact Person	
Indicate all that apply and attach proof of certification: LSBE-DeKalb/LSBE-MSA	
Description of services to be performed	
Percentage of work or estimated contract award amount to be performed	

**EXHIBIT A, CONT'D**

Name of Company	
Address	
Telephone	
Fax	
Contact Person	
Indicate all that apply and attach proof of certification: LSBE-DeKalb/LSBE-MSA	
Description of services to be performed	
Percentage of work or estimated contract award amount to be performed	

Name of Company	
Address	
Telephone	
Fax	
Contact Person	
Indicate all that apply and attach proof of certification: LSBE-DeKalb/LSBE-MSA	
Description of services to be performed	
Percentage of work or estimated contract award amount to be performed	

Name of Company	
Address	
Telephone	
Fax	
Contact Person	
Indicate all that apply and attach proof of certification: LSBE-DeKalb/LSBE-MSA	
Description of services to be performed	
Percentage of work or estimated contract award amount to be performed	

Please attach additional pages, if necessary.

**EXHIBIT A, CONT'D**  
**DEKALB COUNTY**  
**CHECKLIST FOR GOOD FAITH EFFORTS**

A bidder/proposer that does not meet the County's LSBE participation benchmark is required to submit documentation to support all "Yes" responses as proof of "good faith efforts." Please indicate whether or not any of these actions were taken:

	Yes	No	Description of Actions
1.			Advertisement for solicitation of LSBEs in general circulation media and trade association publications at least seven (7) calendar days prior to bid or proposal opening any and all sub-contractor opportunities. Proof of advertisement must be submitted with the bid or proposal.
2.			Provided written notice to LSBEs that their interest in sub-contracting opportunities or furnishing supplies is solicited. Provide a contact log showing the name, address, email and contact number (phone or fax) used to contact the proposed certified subcontractors, nature of work requested for quote, date of contact, the name and title of the person making the effort and the amount of the quoted price if one was obtained.
3.			Provided interested LSBEs with timely, adequate information about the plans, specification, and other such requirements of the contract to facilitate their quotation and conducted follow up to initial solicitations.
4.			Efforts made to divide the work for LSBE subcontracting areas likely to be successful and to identify portions of work available to LSBEs consistent with their availability. Include a list of divisions of work not subcontracted and the corresponding reasons for not including them. The ability or desire of a bidder/proposer to perform the contract work with its own organization does not relieve it of the responsibility to make good faith efforts on all scopes of work subject to subcontracting.
5.			Efforts were made to assist potential LSBE subcontractors meet bonding, insurance, or other governmental contracting requirements. Where feasible, facilitating the leasing of supplies or equipment when they are of such a specialized nature that the LSBE could not readily and economically obtain them in the marketplace.
6.			Communication with Contract Compliance seeking assistance in identifying available LSBEs. Provide Contract Compliance representative name and title.
7.			For all contracts, a signed letter of intent from all certified LSBEs describing the work, materials, equipment or services to be performed or provided by the LSBE(s) and the agreed upon dollar value shall be due with the bid or proposal documents. Provide subcontractor information as requested by forms provided by Contract Compliance.
8.			Other Actions (specify):

**EXHIBIT A, CONT'D**

Please explain all “no” answers above (by number):

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This list is a guideline and by no means exhaustive. The County will review these efforts, along with other documents, to assess the bidder/proposer’s efforts to meet the County’s LSBE Participation benchmark. If you require assistance in identifying certified, bona fide LSBEs, please contact the Purchasing and Contracting Department, Felton Williams, Special Projects Manager at 404-371-6312. A copy of the list of LSBEs certified by the DeKalb County Government, Purchasing and Contracting Department is available on our website at <http://www.dekalbcountyga.gov/>.

**EXHIBIT A, CONT'D**

**DEKALB COUNTY LOCAL SMALL BUSINESS ENTERPRISE SCHEDULE OF  
PARTICIPATION  
OPPORTUNITY TRACKING FORM**

**Bidder/Proposer Statement of Compliance**

Bidder(s)/Proposer(s) hereby state that they have read and understand the requirements and conditions as set forth in the objectives and that reasonable effort were made to support the County in providing the maximum practicable opportunity for the utilization of LSBEs consistent with the efficient and economical performance of this contract. The Bidder and any subcontractors shall file compliance reports at reasonable times and intervals with the County in the form and to the extent prescribed by the Director of DeKalb County Purchasing and Contracting Department. Compliance reports filed at such times as directed shall contain information as to the employment practices, policies, programs and statistics of Contractors and their subcontractors.

**1. Non-Discrimination Policy**

- a. During the performance of this agreement, Contractor agrees to conform to the following Non-Discrimination Policy adopted by the County.
- b. Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or disability. The Contractor will take action to ensure that applicants are employed, and the employees are treated during employment without regard to their race, color, religion, sex, national origin, or disability. Such action shall include, but not be limited to, the following:
  - (1) Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places available to employees and applicants for employment, notices to be provided setting forth provisions of this non-discrimination clause.
  - (2) Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or disability.
- c. Without limiting the foregoing, Contractor shall not discriminate on the basis of disability in the admission or access to, or treatment or employment in, the programs and activities, which form the subject of the contract. The Contractor will take action to ensure that applicants for participation in such programs and activities are considered without regard to disability. Such action shall include, but not be limited to, the following:
  - (1) Contractor agrees to post in conspicuous places available to participants in its programs and activities notices to be provided setting forth the provisions of this non-discrimination clause.

- (2) Contractor shall, in all solicitations or advertisements for programs or activities, which are the subject of the contract, state that all qualified applicants will receive consideration for participation without regard to disability.

2. **Commitment**

The undersigned certifies that he/she has read, understands, and agrees to be bound by the bid specifications, including the accompanying Exhibits and other terms and conditions of the Invitation to Bid and/or Request for Proposal regarding LSBE utilization. The undersigned further certifies that he/she is legally authorized by the bidder or responder to make the statements and representations in

Exhibit A and that said statements and representations are true and correct to the best of his/her knowledge and belief. The undersigned will enter into formal agreement(s) with the LSBE(s) listed in this Exhibit A, which are deemed by the owner to be legitimate and responsible LSBEs. Said agreement(s) shall be for the work and contract with the County. The undersigned understands and agrees that if any of the statements and representations are made by the Bidder knowing them to be false, or if there is a failure of the successful Bidder (i.e., Contractor) to implement any of the stated agreements, intentions, objectives, goals and commitments set forth herein without prior approval of the County, then in any such events the contractor's act or failure to act, as the case may be, shall constitute a material breach of contract, entitling the County to terminate the Contract for default. The right to so terminate shall be in addition to, and not in lieu of, any other rights and remedies the County may have for other defaults under the Contract. Additionally, the Contractor will be subject to the loss of any future contract awards by the County for a period of one year.

Firm Name (Please Print):

\_\_\_\_\_

Firm's Officer:

\_\_\_\_\_

(Authorized Signature and Title Required)

Date

Sworn to and Subscribed to before me this \_\_\_\_ day of \_\_\_\_\_, 201\_\_.

\_\_\_\_\_

Notary Public

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

“EXHIBIT C”

**CERTIFICATE OF CORPORATE BIDDER**

I, \_\_\_\_\_ (*insert name of the Corporate Secretary*), certify that I am Secretary of the corporation named as Bidder herein, same being organized and incorporated to do business under the laws of the State of \_\_\_\_\_; that \_\_\_\_\_ (*insert name of individual signing the Bid*) who executed this Bid on behalf of the Bidder was, then and there, \_\_\_\_\_ (*insert title of individuals signing the Bid*) and that said Bid was duly signed by said officer for and on behalf of said corporation, pursuant to the authority of its governing body and within the scope of its corporate powers.

I further certify that the names and addresses of the owners of all outstanding stock of said corporation as of this date are as follows:

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This \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By: \_\_\_\_\_ (Corporate Seal)  
Secretary

**CERTIFICATE OF AUTHORITY – JOINT VENTURE**  
**(Separate Certificate to be submitted by each joint venture partner)**

I, \_\_\_\_\_, <sup>(1)</sup> certify that:

1. I am the \_\_\_\_\_ <sup>(2)</sup> of \_\_\_\_\_, <sup>(3)</sup> (hereinafter “Venturer”);
2. Venturer is a partner and participant in the joint venture having submitted the Invitation to Bid or Request for Proposal No. \_\_\_\_\_ for \_\_\_\_\_ (insert Project Name);
3. Venturer is organized and incorporated to do business under the laws of the State of \_\_\_\_\_; and
4. Said Invitation to Bid or Request for Proposal No. \_\_\_\_\_ was duly signed by said officer for and on behalf of said Venturer and the Contractor pursuant to the authority of the governing body of each and within the scope of its corporate powers.

I further certify that the names and addresses of the owners of all the outstanding stock or ownership interest in Venturer as of this date are as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By: \_\_\_\_\_  
Signature of Person Executing Certification

**INSTRUCTIONS FOR COMPLETION OF THIS CERTIFICATE:**

1. Name of secretary (if Venturer is a corporation), or Manager or CEO (if Venturer is a LLP) of Venturer.
2. Title of person executing Certification.
3. Name of joint venture partner.

**COPY THIS FORM AND SUBMIT SEPARATE CERTIFICATES FOR EACH JOINT VENTURE PARTNER WITH THE BID OR PROPOSAL.**

**BIDDER’S AFFIDAVIT OF COMPLIANCE WITH O.C.G.A. §13-10-91**

By executing this affidavit, the undersigned verifies its compliance with O.C.G.A. § 13-10-91, as amended, stating affirmatively that the Bidder submitting a Bid to DEKALB COUNTY, GA, a political subdivision of the State of Georgia, has registered with and is participating in a federal work authorization program, commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91, as amended. The undersigned further verifies that it will continue to use the federal work authorization program for the Contract Term, and it will only contract with Subcontractors who have registered for the federal work authorization program. The undersigned hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

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

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

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

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

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on \_\_\_\_\_, \_\_\_\_, 20\_\_ in \_\_\_\_\_(city), \_\_\_\_\_(state).

By: \_\_\_\_\_  
Signature of Authorized Officer or Agent

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

Subscribed and Sworn before me on this the  
\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

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

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

## REQUIRED DOCUMENTS CHECKLIST

Bidder shall complete and submit the following documents with their bid:  
Check page numbers and correct numbers as necessary.

Bid Page No.	Title	Check This Box If Included With Bid
3	Bid Acknowledgement Form*	
34	Required Documents Checklist	
35	Contractor Reference and Release Form*	
36	Subcontractor Reference and Release Form, if applicable**	
37	Bid Bond Form	
39	Public Works Construction Affidavit and Oath of Successful Bidder	
25-30	LSBE - Exhibits A, B, C and D	

**\*If these mandatory forms are not completed and submitted with the bid, the bidder may be deemed non-responsive.**

**\*\*These forms are applicable if a subcontractor will be utilized to fulfill the requirements of this contract. If these forms are applicable, they must be completed and submitted along with the bid. Failure to submit these forms, if applicable, may result in the bidder being deemed non-responsive.**

I, the undersigned, acknowledge that I have included the requested documents as listed above.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

**CONTRACTOR REFERENCE AND RELEASE FORM**

List below at least three (3) references, including company name, contact name, address, email address, telephone numbers and contract period who can verify your experience and ability to perform the type(s) of product(s)/ service(s) listed in the solicitation.

Company Name	Contract Period		
Contact Person Name and Title	Telephone Number (include area code)		
Complete Primary Address	City	State	Zip Code
Email Address	Fax Number (include area code)		
Project Name and Description			

Company Name	Contract Period		
Contact Person Name and Title	Telephone Number (include area code)		
Complete Primary Address	City	State	Zip Code
Email Address	Fax Number (include area code)		
Project Name and Description			

Company Name	Contract Period		
Contact Person Name and Title	Telephone Number (include area code)		
Complete Primary Address	City	State	Zip Code
Email Address	Fax Number (include area code)		
Project Name and Description			

**REFERENCE CHECK RELEASE STATEMENT**

You are authorized to contact the references provided above for purposes of this ITB.

Signed \_\_\_\_\_ Title \_\_\_\_\_  
 (Authorized Signature of Bidder)

Company Name \_\_\_\_\_ Date \_\_\_\_\_

**SUBCONTRACTOR REFERENCE AND RELEASE FORM**

List below at least three (3) references, including company name, contact name, address, email address, telephone numbers and contract period who can verify your experience and ability to perform the type(s) of product(s)/ service(s) listed in the solicitation.

Company Name	Contract Period		
Contact Person Name and Title	Telephone Number (include area code)		
Complete Primary Address	City	State	Zip Code
Email Address	Fax Number (include area code)		
Project Name and Description			

Company Name	Contract Period		
Contact Person Name and Title	Telephone Number (include area code)		
Complete Primary Address	City	State	Zip Code
Email Address	Fax Number (include area code)		
Project Name and Description			

Company Name	Contract Period		
Contact Person Name and Title	Telephone Number (include area code)		
Complete Primary Address	City	State	Zip Code
Email Address	Fax Number (include area code)		
Project Name and Description			

**REFERENCE CHECK RELEASE STATEMENT**

You are authorized to contact the references provided above for purposes of this ITB.

Signed \_\_\_\_\_ Title \_\_\_\_\_  
 (Authorized Signature of Bidder)

Company Name \_\_\_\_\_ Date \_\_\_\_\_

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, \_\_\_\_\_

\_\_\_\_\_ (hereinafter called the Principal) and \_\_\_\_\_

\_\_\_\_\_ (hereinafter called the Surety), a corporation chartered and existing under the laws of the

State of \_\_\_\_\_ with its principal offices in the City of \_\_\_\_\_

and listed in the Federal Register and licensed to write surety bonds in the

State of Georgia, are held and firmly bound unto DeKalb County, Georgia, in the full and

just sum of \_\_\_\_\_

\_\_\_\_\_ Dollars (\$ \_\_\_\_\_) good and lawful money of the United States of

America, to be paid upon demand of DeKalb County, Georgia, to which payment well

and truly to be made we bind ourselves, our heirs, executors, administrators, and assigns,

jointly and severally and firmly by these presents.

WHEREAS, the Principal is about to submit, or has submitted to DeKalb County,

Georgia, a Bid for Yellow River Main Replacement 2016

WHEREAS, the Principal desires to file this Bond in accordance with law to accompany

this Bid.

NOW, THEREFORE, the conditions of this obligation are such that if the Bid be

accepted within sixty (60) days of the Bid opening, the Principal shall execute a Contract

in accordance with the Bid and upon the terms, conditions, and prices set forth therein,

and in the form and manner required by DeKalb County, Georgia, and within ten (10)

days from the date of Notice of Award of the Contract, execute a sufficient and

satisfactory Performance Bond and Payment Bond payable to DeKalb County, Georgia,

each in an amount of one hundred percent (100%) of the total Contract Price, in form and

with security satisfactory to DeKalb County and furnish satisfactory proof of the

insurance required, then this obligation to be void; otherwise, to be and remain in full

force and virtue in law; and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid DeKalb County, Georgia, upon demand, the amount hereof in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_.

**PRINCIPAL**

By: \_\_\_\_\_ (SEAL)  
Signature of Principal

\_\_\_\_\_  
Print Name and Title of Authorized Signer

\_\_\_\_\_  
Print Name of Principal Business

ATTEST:

\_\_\_\_\_  
Corporate Secretary

**SURETY**

By: \_\_\_\_\_ (SEAL)  
Signature of Surety (by Power of Attorney)

\_\_\_\_\_  
Print Name and Title of Authorized Signer

\_\_\_\_\_  
Print Name of Surety Business

WITNESS:

\_\_\_\_\_

STATE OF GEORGIA  
COUNTY OF DEKALB

**CONTRACTOR AFFIDAVIT AND  
OATH OF SUCCESSFUL BIDDER**

Personally appeared before me, the undersigned officer, duly authorized to administer oaths, \_\_\_\_\_, (*insert name*), who, after being duly sworn, deposes as follows:

I, \_\_\_\_\_, (*insert name*), am a competent adult, and I have personal knowledge of the facts set forth in this Affidavit and Oath which I make for any lawful use or purpose.

I, \_\_\_\_\_ (*insert name*) swear or affirm that I have not prevented or attempted to prevent competition in bidding or submitting a proposal for this Project by any means whatsoever. I swear or affirm that I have not prevented or endeavored to prevent anyone from making a Bid for this Project by any means whatsoever, I swear I have not caused or induced any other person to withdraw a Bid for this Project. I swear or affirm that I have not violated O.C.G.A. §36-91-21(d) in any way, directly or indirectly.

I hereby declare under penalty of perjury that the foregoing is true and correct. Executed on \_\_\_\_\_, 20\_\_ in \_\_\_\_\_ (*city*), \_\_\_\_\_ (*state*).

By: \_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name of Affiant

\_\_\_\_\_  
Print Title of Affiant

Subscribed and Sworn before me on this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC  
My Commission Expires:  
\_\_\_\_\_

**Exhibit 1**  
**Standard Form Contract for Construction**

## CONTRACT FOR CONSTRUCTION

**THIS CONTRACT**, made as of this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, (hereinafter called the “execution date”) by and between, **DEKALB COUNTY**, a political subdivision of the State of Georgia (hereinafter called the “County”) and \_\_\_\_\_, a \_\_\_\_\_ organized pursuant to the laws of the State of \_\_\_\_\_ (hereinafter called the “Contractor”).

### I. SCOPE OF WORK

A. The term “Work” means the construction, labor, materials, equipment, tools, machinery, testing, temporary services and utilities, supervision, administration, coordination, planning, insurance, bonds, transportation, security, and all other services and things necessary to provide the County with the facilities, improvements, features, and functions in strict conformity with the General Requirements attached hereto, Summary of Work hereto attached and as described in the Specifications and the Drawings included in the Bid Document Package. The Contractor agrees to complete the Work in a good, firm, substantial and workmanlike manner in strict conformity with this Contract.

(1) The Work relates to the following Project:

B. Unless otherwise stipulated, the Contractor shall furnish all of the Work in accordance with the Contract and all incidental work necessary to complete the Project in an acceptable manner, ready for use, occupancy, or operation by the County. The Contractor shall be responsible for the entire Work and every part thereof.

### II. TIME, TERM AND LIQUIDATED DAMAGES

A. **Contract Time.** The Contractor shall commence the Work under this Contract within ten (10) days from the date on the Notice to Proceed. Contractor shall fully complete the Work within ninety (90) days from and including the date on the Notice to Proceed. If the Change Order only seeks to extend the Contract Time, it may be approved and executed by the DeKalb County Chief Executive Officer or his/her designee and the Contractor in accordance with the terms of this Contract.

B. **Liquidated Damages.** The Contractor acknowledges that time is of the essence with respect to the Work governed by this Contract. Contractor acknowledges and recognizes that if it fails to achieve Substantial Completion of any portion of the Work within the Contract Time as may be extended in accordance with the terms of this Contract, the County will sustain substantial losses as a result of such failure. The Contractor further acknowledges that the County will suffer damages that are difficult if not impossible to accurately estimate. Contractor shall pay liquidated damages of One Thousand Dollars (\$1,000.00) for each day that Substantial Completion of the Work is delayed past the

Contract Time. The Contractor agrees that the foregoing rate is a reasonable pre-estimate of the probable damages that the County will suffer if Substantial Completion is delayed, and said daily rate is intended to compensate the County for its damages and is not intended to penalize the Contractor for its delay. The County may deduct such liquidated damages from any unpaid amounts then or thereafter due the Contractor under this Contract. Any liquidated damages not deducted from any unpaid amounts due the Contractor are payable to the County at the County's demand, together with interest from the date of the demand at a rate equal to seven percent (7%) per annum.

### **III. PAYMENT**

- A. **Contract Price.** As full payment for the faithful performance of this Contract, the County shall pay the Contractor, the Contract Price, which is an amount not to exceed \_\_\_\_\_ (\$\_\_\_\_\_), unless changed by written Change Order in accordance with the terms of this Contract. The term "Change Order" includes the term "amendment" and shall mean a written order authorizing a change in the Work, and an adjustment in Contract Price to Contractor or the Contract Term, as adopted and approved by the Contractor and the DeKalb County Governing Authority, or the Chief Executive Officer, if exempted from Governing Authority adoption and approval in accordance with the express terms of this Contract. The Chief Executive Officer or his/her designee shall have the authority to approve and execute a Change Order lowering the Contract Price or increasing the Contract Price up to twenty percent (20%) of the original Contract Price, provided that the total amount of the increase authorized by such Change Order is less than \$100,000.00. If the original Contract or Purchase Order Price does not exceed \$100,000.00, but the Change Order will make the total Contract Price exceed \$100,000.00, then the Change Order will require approval by official action of the Governing Authority. Any other increase of the Contract Price shall be by Change Order adopted and approved by the DeKalb County Governing Authority and the Contractor in accordance with the terms of this Contract. Amounts paid to the Contractor shall comply with and not exceed Attachment C, the Contractor's Bid Price Form, consisting of \_\_\_\_\_ page(s) attached hereto and incorporated herein by reference. Payment is to be made no later than thirty (30) days after submittal of undisputed invoice.
- B. **Retainage and Partial Payments.** Partial payments to the Contractor shall be made monthly, based on the value of Work completed as determined by the County, plus the value of materials and equipment suitably stored, insured and protected at the construction site. The Contractor shall submit a payment request for Work completed during the preceding calendar month to \_\_\_\_\_ for review and approval on or before last day of each month. If approved by the Project Manager or Designated Representative, the approved amount, less retainage, shall be paid to the Contractor thirty (30) days after the date the approved payment request is received by the County Finance Department. If a payment request is not approved by the County, then no payment shall be made to the Contractor until after the Project Manager or Designated Representative approves the payment request. The amount of retainage shall be as follows:
- (1) Ten percent (10%) of each partial payment shall be withheld as retainage until the value of fifty percent (50%) of the Contract Price, including Change Orders and other authorized additions provided in the Contract, is due;

- (2) When fifty percent (50%) of the Contract Price, as described above, becomes due and the manner of completion of the Work and its progress, quality, schedule are reasonably satisfactory to the County, and there are no outstanding claims by the Contractor, Subcontractors, lower tier subcontractors, as that term is defined by state law, or Suppliers, the withholding of retainage shall be discontinued.
- (1) If after discontinuing retainage, the County determines that the Work is unsatisfactory or has fallen behind schedule, withholding of ten percent (10%) of each request for payment may be resumed. When the Work has reached Substantial Completion and the County determines the Work to be reasonably acceptable, the Contractor shall submit an invoice or other documents as may be required and receive payment of retainage within thirty (30) days. If minor items remain incomplete at that time, an amount equal to two hundred percent (200%) of the value of each item, as determined by the County, shall be withheld until such items are completed.
- (2) The Contractor shall within ten days from the Contractor's receipt of each payment from the County pass through payments to Subcontractors and shall reduce each Subcontractor's retainage in the same manner as the Contractor's retainage is reduced by the County. The Subcontractor shall, within ten days from the Subcontractor's receipt of payment, pass through payments to lower tier subcontractors and shall reduce each lower tier subcontractor's retainage in the same manner as the Subcontractor's retainage is reduced.
- (3) Contractor and County agree to abide by all applicable provisions of Georgia state law concerning retainage, including but not limited to O.C.G.A. § 13-10-80 and 13-10-81. If the terms of this contract concerning retainage conflict with state law, state law governs.

**C. Payment Requests and Invoices.** Payment Requests and invoice(s) must be submitted as follows:

- (1) Original(s) must be submitted to:  
  
Department of Watershed Management  
1641 Roadhaven Drive  
Stone Mountain, Georgia 30083  
Attn: Capital Improvement Program Director
- (2) A copy must be submitted with completed Prime Contractor Local Small Business Enterprise ("LSBE") Utilization Report and LSBE Subcontractor Report to:  
  
DeKalb County Department of Purchasing & Contracting  
Contract Compliance Division  
1300 Commerce Drive, 2nd Floor  
Decatur, Georgia 30030

- D. **Title.** All equipment, materials, and Work covered by partial payments shall, upon payment thereof, become the sole property of the County, but this provision shall not be construed as relieving the Contractor from the sole responsibility for the care and protection of equipment, materials, and Work upon which payments have been made, or the restoration of any damaged Work.
- E. **Final Payment.** Within sixty (60) days after the Work is fully completed and accepted by the County, the balance due hereunder shall be paid; provided, however, that final payment shall not be made until said Contractor shall have completed all Work necessary and reasonably incidental to the Contract, including final cleanup and restoration. Acceptance of the Work and the making of final payment shall not constitute a waiver of any claims by the County. All claims by the Contractor for breach of contract, violation of state or federal law, or compensation and extensions of time shall be submitted in writing to the Chief Executive Officer within sixty (60) days after completion and acceptance of the Work as herein provided, or all such claims shall be forever barred.

#### **IV. NOTICE**

Any notice or consent required to be given by or on behalf of any party hereto to any other party hereto shall be in writing and shall be sent to the County's Chief Executive Officer and the Executive Assistant or to the Contractor or his authorized representative on the work site by (a) registered or certified United States mail, return receipt requested, postage prepaid, (b) personal delivery, or (c) overnight courier service. All notices sent to the addresses listed below shall be binding unless said address is changed in writing no less than fourteen days before such notice is sent. Future changes in address shall be effective upon written notice being given by the Contractor to the County's Executive Assistant or by the County to the Contractor's authorized representative via certified first class U.S. mail, return receipt requested. Such notices will be addressed as follows:

**To the County:**

Chief Executive Officer  
The Maloof Center  
1300 Commerce Drive, 6<sup>th</sup> Floor  
Decatur, Georgia 30030

and

Executive Assistant  
The Maloof Center  
1300 Commerce Drive, 6<sup>th</sup> Floor  
Decatur, Georgia 30030

With a copy to:

Director of the Department of Purchasing and Contracting  
The Maloof Center  
1300 Commerce Drive, 2<sup>nd</sup> Floor  
Decatur, Georgia 30030

**To the Contractor:**

With a copy to: *(Insert Contractor name and address)*

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**V. FEDERAL WORK AUTHORIZATION**

- A. Pursuant to O.C.G.A. §13-10-91, the County cannot enter into a contract for the physical performance of services unless the Contractor, its Subcontractor(s) and sub-subcontractor(s), as that term is defined by state law, register and participate in the Federal Work Authorization Program to verify specific information on all new employees.
- B. Contractor certifies that it has complied and will continue to comply throughout the Contract Term with O.C.G.A. §13-10-91 and any related and applicable Georgia Department of Labor Rule.
- C. Contractor agrees to sign an affidavit evidencing its compliance with O.C.G.A. §13-10-91. The signed affidavit is attached to this Contract as Attachment D.
- D. Contractor agrees that in the event it employs or contracts with any Subcontractor(s) in connection with this Contract, Contractor will secure from each Subcontractor an affidavit that certifies the Subcontractor’s current and continuing compliance with O.C.G.A. §13-10-91 throughout the Contract Term. Any signed Subcontractor affidavit(s) obtained in connection with this Contract shall be attached hereto as Attachment E.
- E. Each Subcontractor agrees that in the event it employs or contracts with any sub-subcontractor(s), each Subcontractor will secure from each sub-subcontractor an affidavit that certifies the sub-subcontractor’s current and continuing compliance with O.C.G.A. §13-10-91 throughout the Contract Term. Any signed sub-subcontractor affidavit(s) obtained in connection with this Contract shall be attached hereto as Attachment F.

**VI. CORPORATE AUTHORITY**

Contractor agrees to execute the Certificate of Corporate Authority, attached hereto as Attachment G. The officials of the Contractor executing this Contract are duly and properly in office and are fully authorized and empowered to execute the same for and on behalf of the Contractor. Contractor warrants that it has all requisite power and authority to enter into and perform its obligations under this Contract, and that the execution and delivery by the Contractor of this Contract and the compliance by the Contractor with all of the provisions of this Contract (i) is within the purposes, powers, and authority of the Contractor; (ii) has been done in full compliance with applicable law and has been approved by the governing body of the Contractor and is legal and will not conflict with or constitute on the part of the Contractor a violation of or a breach of or a default under any indenture, mortgage, security deed, pledge, note, lease, loan, or installment sale agreement, contract, or other agreement or instrument to which the Contractor is a party or by which

the Contractor is otherwise subject or bound, or any license, judgment, decree, law, statute, order, writ, injunction, demand, rule, or regulation of any court or governmental agency or body having jurisdiction over the Contractor; and (iii) has been duly authorized by all necessary action on the part of the Contractor. This Contract is the valid, legal, binding and enforceable obligation of the Contractor.

## **VII. PERFORMANCE AND PAYMENT BONDS AND INSURANCE REQUIREMENTS**

- A. Within ten (10) days from the date of Notice of Award of this Contract, the Contractor, as principal, shall give a Contract Performance Bond, attached hereto as Attachment J and a Payment Bond, attached hereto, each in the amount of \$\_\_\_\_\_, for the use of all persons doing work or furnishing skills, tools, machinery, or materials under or for the purpose of this Contract, in accordance with the applicable provisions of Georgia state law, including but not limited to, O.C.G.A. §13-10-1 and §36-91-21 *et seq.* The bonds shall be underwritten by a surety company licensed to write bonds in the State of Georgia, listed in the most current U.S. Treasury Circular No. 570, and which have a current A.M. Best rating of "A" (Excellent) with a Financial Size Category of XII or better. The life of these bonds shall extend throughout the Contract Term including a sixty (60) day maintenance period (where applicable) and a twelve-month guarantee period after the completion of Work performed under this Contract. The bonds shall issue on the forms provided by the County as part of this Contract.
- B. It is further agreed between the parties hereto that if at any time after the execution of this Contract and the surety bonds, the County shall deem the surety or sureties upon such bonds to be unsatisfactory, or if, for any reason, such bonds cease to be adequate to cover the performance of the Work, the Contractor shall, at its sole expense and within five (5) days after the receipt of notice from the County to do so, furnish additional bond or bonds in such form and amount and with such surety or sureties as shall be satisfactory to the County.
- C. The Contractor shall, without expense to the County, provide certificates of insurance, and copies of signed insurance policies including declarations pages from companies that are authorized to engage in the insurance business in the state of Georgia and are otherwise acceptable to the County Finance Director or his/her designee, attached hereto as Attachment J. Such insurance shall be placed with admitted insurers that maintain an A.M. Best's rating of not less than A (Excellent) with a Financial Size Category of VIII or better with coverage forms acceptable to Contractor. The insurance described below shall be maintained uninterrupted for the duration of the project, including any warranty periods, and shall protect Contractor, and others as required by contract, for liabilities in connection with work performed by or on behalf of Contractor, its agents, representatives, employees or Contractors.
- (1) *Workers Compensation Insurance.* Statutory workers compensation insurance is to be provided in compliance with the requirements of Georgia law with limits not less than the following:
- Employer's liability insurance by accident, each accident    \$1,000,000

Employer's liability insurance by disease, policy limit \$1,000,000  
Employer's liability insurance by disease, each employee \$1,000,000

- (2) *Commercial General Liability Insurance.* Commercial general liability insurance is to be provided with limits not less than the following:

\$1,000,000 per occurrence for bodily injury and property damage liability  
\$1,000,000 personal and advertising injury liability  
\$2,000,000 general aggregate  
\$2,000,000 products-completed operations aggregate  
\$ 100,000 damage to rented premises (each occurrence)  
\$ 5,000 medical expense (any one person)

- (3) *Umbrella or Excess Insurance.* Umbrella or excess insurance is to be provided with General Liability, Auto Liability and Employers Liability scheduled as underlying policies with limits not less than the following:

\$5,000,000 per occurrence  
\$5,000,000 aggregate

- (4) *Comprehensive Automobile Liability Insurance.* Comprehensive automobile liability insurance with form coverage is to be provided for all owned, non-owned and hired vehicles with combined single limit of \$1,000,000. Automobile liability insurance shall be written on ISO Business Auto Coverage Form CA 0001 (1990 edition or later), or a substitute form providing equivalent coverage, and shall cover liability for bodily injury and property damage arising from the use or operation of any automobile, including those owned, hired or otherwise operated or used by or on behalf of Contractor. The policy must include Broadened Pollution Liability Endorsement CA9948 12 93.

- (5) *Builder's Risk Insurance Coverage (If Applicable).* DeKalb County shall procure and maintain Builders Risk Insurance on the entire work which provides "All-risk" form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism, malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than caused by flood), and such other perils or causes of loss as may be specifically required by Supplementary Conditions) until Final Completion and Acceptance of the Project. Such policy of insurance shall contain at least the following sub-limits of insurance and deductibles:

Sub-limits:

Property in Transit	\$1,000,000
Property in Offsite Storage	\$1,000,000

Plans & Blueprints	\$25,000
Debris Removal	25% of Insured Physical Loss
Delay in Completion / Soft Cost	TBD
Ordinance of Law (Increased Cost of Construction)	\$1,000,000
Flood and Earthquake	TBD – Full Contract Value
Deductibles:	
Flood and Earthquake	\$25,000
Water Damage other than Flood	\$100,000
All other Perils	\$10,000

- D. The County, its elected officials, officers, employees and agents, hereinafter referred to in this article and in the article entitled “Certificates of Insurance” as “the County and its officers” are to be named as additional insured on all policies of insurance except worker’s compensation insurance with no cross suits exclusion. The County and its officers shall be included as additional insureds under commercial general liability and commercial umbrella insurance, for liabilities arising out of both the ongoing and completed operations of Contractor. Such additional insured coverage shall be endorsed to Contractor’s policy by attachment of ISO Additional Insured Endorsement forms CG 20 10 10 01 (ongoing operations) and CG 20 37 10 01 (products-completed operations), or form(s) providing equivalent coverage.
- E. All coverages required of the Contractor will be primary over any insurance or self-insurance program carried by the County.
- F. If the Contractor is a joint venture involving two (2) or more entities, then each independent entity will satisfy the limits and coverages specified here or the joint venture will be a named insured under each respective policy specified.
- G. In addition to procuring and maintaining commercial general liability insurance, automobile liability and commercial umbrella insurance, for the Contract Term, Contractor shall continue to procure and maintain the products-completed operations liability insurance coverage and commercial umbrella insurance after the Work is substantially complete for the entire Contract Term or for the applicable five-year statutory limitation, whichever is greater. For such period of time, all terms and conditions of such coverage shall remain unchanged, including the limits specified herein and the requirement to provide the County with coverage as an additional insured.
- H. Contractor agrees to waive all rights of subrogation and other rights of recovery against the County and its officers and shall cause each Subcontractor to waive all rights of subrogation for all coverage.
- I. Failure of the County to demand such certificate or other evidence of full compliance with these insurance requirements or failure of the County to identify a deficiency from evidence provided will not be construed as a waiver of the Contractor’s obligation to maintain such coverage.

- J. Contractor understands and agrees that the purchase of insurance in no way limits the liability of the Contractor.

### **VIII. CERTIFICATES OF INSURANCE**

- A. Certificates shall state that the policy or policies shall not expire, be cancelled or altered without at least sixty (60) days prior written notice to the County. Policies and Certificates of Insurance listing the County and its officers as additional insureds (except for workers' compensation insurance) shall conform to all terms and conditions (including coverage of the indemnification and hold harmless agreement) contained in this Contract.
- B. The Contractor agrees to name the County and its officers as additional insured on the commercial general liability insurance, using the ISO Additional Insured Endorsement forms CG20101001 (ongoing operations) and CG20371001 (products-completed operations) forms, or form(s) providing equivalent coverage.
- C. Certificates of Insurance must contain the policy number, policy limits, and policy expiration date of all policies issued in accordance with this Contract; the location and operations to which the insurance applies. Certificates must be provided annually for the duration of the project. If applicable, a specific statement must be included that blasting coverage is included to the extent such risk is present; that Contractor's protective coverage applies to any Subcontractor's operations; and Contractor's contractual liability insurance coverage applies to any Subcontractor.
- D. This insurance for the County as the additional insured shall be as broad as the coverage provided for the named-insured Contractor. It shall apply as primary insurance before any other insurance or self-insurance, including any deductible, non-contributory, and waiver of subrogation provided to the County as the additional insured.
- E. The Contractor shall be wholly responsible for securing certificates of insurance coverage as set forth above from all Subcontractors who are engaged in the Work.
- F. If the County shall so request, the Contractor will furnish the County for its inspection and approval such policies of insurance with all endorsements, or confirmed specimens thereof certified by the insurance company to be true and correct copies.
- G. Contractor shall be responsible and have the financial wherewithal to cover any deductibles or retentions included on the certificate of insurance.
- H. Such certificates should be sent to the County and must identify the "Certificate Holder" as follows:

DeKalb County, Georgia  
Director of Purchasing & Contracting  
The Maloof Center  
1300 Commerce Drive, 2<sup>nd</sup> Floor  
Decatur, Georgia 30030

- I. Copies of Required Insurance policies with Declarations Page(s) shall be attached hereto as Attachment J.

**IX. RIGHT TO AUDIT**

- A. The County shall have the right to audit all books and records, including electronic records, relating or pertaining to this contract or agreement, including but not limited to all financial and performance related records, property, and equipment purchased in whole or in part with County funds and any documents or materials which support those records, kept under the control of the Contractor, including but not limited to those kept by the Contractor's employees, agents, assigns successors and subcontractors. The County also has the right to communicate with Contractor's employees related to the audited records.
- B. The Contractor shall maintain such books and records, together with such supporting or underlying documents and materials, for the duration of this contract and for seven (7) years after termination or expiration, including any and all renewals thereof. The books and records, together with supporting documents and materials shall be made available, upon request to the County or its designee, during normal business hours at the Contractor's office or place of business. In the event that no such location is available, then the books, records, and supporting documents shall be made available for audit at a time and location which is convenient for the County.

**X. NEW ETHICS POLICY**

- A. To the extent that the Organizational Act, Section 22A, the Code of DeKalb County, and the rules of Executive Order 2014-4 allow a gift, meal, travel expense, ticket, or anything else of value to be purchased for a CEO or employee by a contractor doing business with the County, the contractor must provide written disclosure, quarterly, of the exact nature and value of the purchase to the Chief Integrity Officer, if created, or the Finance Director or his/her designee. Additionally, every contractor who conducts business with the County will receive a copy of the ethical rules at the time of execution of the contract.
- B. Copies of Required Executive Order 2014-4, New Ethics Policy Page(s) shall be attached hereto as Attachment L.

**XI. CONTRACT DOCUMENTS**

- A. This Contract includes the following Attachments all of which are incorporated herein by reference:

Attachment A, General Requirements, GR-1 through GR-48

Attachment B, Summary of Work

Attachment C, Bid Form

Attachment D, Contractor's Affidavit under O.C.G.A. §13-10-91

Attachment E, Sub-subcontractor's Affidavit under O.C.G.A. §13-10-91

Attachment F, Sub-subcontractor's Affidavit(s)

Attachment G, Certificate of Corporate Authority,

Attachment H, Certificate of Corporate Authority/ Articles of Organization

Attachment I, Certificate of Corporate Authority Joint Venture Certificates

Attachment J, Performance Bond and Accompanying Power of Attorney

Attachment K, Payment Bond and Accompanying Power of Attorney

Attachment L, Certificate of Insurance with Declarations Page(s)

Attachment M, Addenda Acknowledgement

Attachment N, Executive Order No. 2014-4 New Ethics Policy

Attachment O, Federally Assisted Contracts

Attachment P, Davis Bacon Wage Rates

Attachment Q, Certification of Suspension and Debarment

- B. In addition to the foregoing, the Bid Document Package dated \_\_\_\_\_, the original of which is maintained in the County's Department of Purchasing and Contracting, forms an essential part of this Contract as if fully set out herein.

## **XII. FUNDING CLAUSE**

The Contractor has been informed and understands that funding for this Contract is provided under the Community Development Block Grant (CDBG) Program of the U.S. Department of Housing and Urban Development and expressly agrees that performance of the Contract, in whole or in part, is contingent upon and subject to the availability of such funding to DeKalb County, Georgia.

## **XIII. FEDERAL AND/OR STATE FUNDING LAW**

All applicable Federal Regulations are being adhered to under the Community Development Block Grant (CDBG) Program of the U.S. Department of Housing and Urban Development.

**[SIGNATURES APPEAR ON NEXT PAGE]**

IN WITNESS WHEREOF, the parties hereto have set their hands and caused their seals to be affixed hereupon in four (4) counterparts, each to be considered as an original by their authorized representatives.

**NAME OF CONTRACTOR**

**DEKALB COUNTY, GEORGIA**

By: \_\_\_\_\_  
Signature (SEAL)

\_\_\_\_\_  
Name (Typed or Printed)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Federal Tax I.D. Number

\_\_\_\_\_  
Date

**ATTEST:**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (Typed or Printed)

\_\_\_\_\_  
Title

**APPROVED AS TO SUBSTANCE:**

\_\_\_\_\_  
DeKalb County  
Department Director

\_\_\_\_\_ **by Dir. (SEAL)**

LEE MAY  
Interim Chief Executive Officer  
DeKalb County, Georgia

\_\_\_\_\_  
Date

**ATTEST:**

\_\_\_\_\_  
BARBARA H. SANDERS, CCC  
Clerk of the Chief Executive Officer  
and Board of Commissioners of  
DeKalb County, Georgia

**APPROVED AS TO FORM:**

\_\_\_\_\_  
County Attorney Signature

\_\_\_\_\_  
County Attorney Name  
(Typed or Printed)

## **Exhibit 2**

### Technical Specifications

**YELLOW RIVER FORCE MAIN REPLACEMENT 2016 DEKALB  
COUNTY DEPARTMENT OF WATERSHED MANAGEMENT  
DEKALB COUNTY, GEORGIA**

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**SPECIFICATIONS**

**DIVISION 1**

SECTION 01010    SUMMARY OF WORK  
SECTION 01015    CONTROL OF WORK  
SECTION 01025    MEASUREMENT AND PAYMENT

**DIVISION 2**

SECTION 02441    MICROTUNNELING  
SECTION 02446    AUGURING/JACKING AND BORING

**SECTION 01010 SUMMARY OF WORK**

PART 1 - GENERAL

1.1 SCOPE OF WORK COVERED BY CONTRACT DOCUMENTS

The Scope of Work of this contract includes, but is not necessarily limited to the following items. Where conflicts arise between this Scope of Work narrative and other Contract Documents, other Contract Documents shall supersede.

- A. Replacement and re-routing of the sanitary sewer force main in a casing pipe under the Yellow River through Jack and Bore or Microtunneling.
- B. Install isolation valves and pump put connections to facilitate evacuating pipeline during construction and operations.
- C. As necessary, construct and maintain temporary bypass pumping to maintain continuous and reliable wastewater flow during construction.
- D. Install valves in vaults with tops 2-feet above ground.
- E. Protection of site by utilizing best management practices to minimize impact to surrounding facilities.

1.2 CONTRACT METHOD

Provide work described by contract documents under a unit price contract.

1.3 WORK SEQUENCE

- A. Provide work in stages to accommodate Owner use of premises during construction.
- B. No renovation shall be done in existing facility until Owner release.

1.4 OWNER OCCUPANCY

Owner will occupy existing facility and continue normal business operations during construction.

1.5 CONTRACTOR'S DUTIES

- A. Except as specifically noted, provide and pay for:
  - 1. Labor, materials and equipment.
  - 2. Tools, construction equipment and machinery.
  - 3. Other facilities and services necessary for proper execution and completion of work.

- B. Pay legally required sales, consumer and use taxes, except as specifically excluded.
- C. Secure and pay for, as necessary for proper execution and completion of work, and as applicable at time of receipt of bids:
  - 1. Permits.
  - 2. Government fees.
  - 3. Licenses.
- D. Give required notices.
- E. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of work.
- F. Promptly submit written notice to Engineer of observed variance of Contract Documents from legal requirements.

#### 1.6 APPLICABLE CODES

All references to codes, specifications, and standards referred to in the Specification Sections and on the Drawings shall mean, and are intended to be, the latest edition, amendment, and/or revision of such reference standard in effect as of the date of these Contract Documents.

#### 1.7 UNIT PRICE

- A. Definition: Unit price means a fixed price for materials and installation, including all overhead, profit, and all other costs of whatever nature and character, for a specified unit of work. Unit prices as such will be used for additional work or deducted work. The Owner may at any time order an increase or decrease in the number of units of work. Unit prices in the bid form, when incorporated in the Contract, shall be the same for additional or deducted units, unless otherwise specified.
- B. The Owner, Contractor and Engineer shall jointly develop the list of required unit prices.

### Part 2 - EXECUTION

#### 2.1 PROTECTION

- A. Make such explorations and probes as are necessary to ascertain any required protective measures before proceeding with demolition and removal. Give particular attention to shoring and bracing requirements so as to prevent any damage to existing construction.

- B. Provide, erect, and maintain barriers, warning signs, and other items as required for proper protection of the workmen engaged in demolition operations, occupants of the facility and the general public.
- C. Provide and maintain temporary protection of the existing structure designated to remain where demolition, removal, and new work are being done, connections made, materials handled, or equipment moved.
- D. Take necessary precautions to prevent dust and dirt from rising by wetting demolished masonry, concrete, plaster, and similar debris.
- E. Provide adequate fire protection in accordance with local Fire Department requirements.
- F. Do not close or obstruct roadways, walkways, passageways, or stairways without the authorization of the Owner. Do not store or place materials in passageways, stairs, or other means of egress. Conduct operations with minimum traffic interference.
- G. Be responsible for any damage to the existing structures or contents by reason of the insufficiency of protection provided.

## 2.2 WORKMANSHIP

- A. Cut, remove, alter, temporarily remove and replace, or relocate existing work as required for performance of the work. Perform such work required with due care, including shoring and bracing.
- B. Coordinate patching involving the various trades whether or not specifically mentioned in the respective Specification sections.
- C. Materials or items demolished shall become the property of the Contractor and shall be removed from the Owner's property.
- D. Where utilities are removed, or abandoned, cap, valve, plug, or by-pass to make complete and working installation.
- E. Upon completion of contract, deliver work complete and undamaged. Damage that may be caused by Contractor or Contractor's workmen to existing structures, grounds, and utilities shall be repaired by Contractor and left in as good condition as existed prior to damaging.
- F. Finish new and adjacent existing surfaces as specified for new work. Clean existing surfaces of dirt, grease and loose paint before refinishing.

2.3 CLEANING UP

Remove debris as the work progresses. Maintain the premises in a neat and clean condition.

**END OF SECTION**

**SECTION 01015 CONTROL OF WORK**

PART 1- GENERAL

1.1 SECTION INCLUDES

This section includes the general use of the site including properties inside and outside of the right of way, work affecting existing utilities, roadways, streets, driveways, and traffic patterns. This section also includes requirements for notification to adjacent landowners and occupants.

1.2 PERSONNEL – COOPERATION WITHIN THIS CONTRACT

- A. The contractor shall furnish manpower and equipment which will be efficient, appropriate and large enough to secure a satisfactory quality of work and a rate of progress which will insure the completion of the work within the time stipulated in the Proposal. If at any time such project progression appears to the Owner to be inefficient, inappropriate, or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he may order the Contractor to increase the project equipment and/or manpower, and the Contractor shall conform to such order. Contractor shall be required to increase the project equipment and/or manpower in a safe manner. Failure of the Owner to give such order shall in no way relieve the Contractor of his obligations to secure the quality of the work and rate of progress required.
- B. All firms or persons authorized to perform any work under this Contract shall cooperate with the General Contractor and his subcontractors or trades, and shall assist in incorporating the work of other trades where necessary or required.
- C. Cutting and patching, drilling and fitting shall be carried out where required by the trade or subcontractor having jurisdiction, unless otherwise indicated herein or directed by the Owner.

PART 2 - EXECUTION

2.1 INSTALLATION

- A. Private land: The Contractor shall not enter or occupy any private land outside of easements, except by permission of the property owner and the client Owner.

- B. Pipe locations: Pipelines shall be located substantially as indicated on the Drawings, but the Owner reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve him from laying and jointing different or additional items where required.
- C. Open excavations:
1. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by Owner's personnel, pedestrians and workmen. Bridges provided for access to private property during construction shall be removed when no longer required. The length of open trench will be controlled by the particular surrounding conditions, but shall always be confined to limits minimizing interference with plant operating personnel and not endangering existing facilities. Maximum length of open trench is not to exceed 100 feet ahead of pipe laying and backfilling in paved areas and not to exceed 200 feet ahead of pipe laying and backfilling in unimproved areas.
  2. If the open excavation becomes a hazard, or if it excessively restricts traffic, Contractor shall engage construction procedures such as limiting the length of open trench, prohibiting stacking excavated material in the street, and requiring that the trench shall not remain open overnight.
  3. The Contractor shall take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be well lit at night.
- D. Maintenance of traffic:
1. Unless permission to close the street is received in writing from the proper authority, all excavated material shall be placed so vehicular and pedestrian traffic may be maintained at all times. If the Contractor's operations cause traffic hazards, he shall repair the road surface, provide temporary ways, erect wheel guards or fences, or take other measures for safety.
  2. Detours around construction will be subject to the approval of the Owner. Where detours are permitted, the Contractor shall provide all necessary barricades and signs as required to divert the flow of traffic. While traffic is detoured, the Contractor shall provide all necessary barricades and signs as required to divert the flow of traffic. While traffic is detoured, the Contractor shall expedite construction operations and periods when traffic is being detoured will be strictly controlled by the Owner.
  3. The Contractor shall take precautions to prevent injury to the public due to open trenches. Night watchmen may be required where special hazards exist, or police protection provided for traffic while work is in progress.

The Contractor shall be fully responsible for damage or injuries whether or not police protection has been provided.

- E. Work Within GDOT Right-of-Way
  - 1. All roadway restoration shall be done in accordance with the lawful requirements of the authorities within whose jurisdiction such pavement is located
  - 2. All highway utilities and traffic controls are to be maintained and work shall conform to the rules and regulations of the authorities, including the use of standard signs.
  - 3. The Contractor shall furnish all such bonds or checks required by the highway authorities to ensure proper restoration of paved areas.
  
- F. Care and protection of property:
  - 1. The Contractor shall be responsible for the preservation of all public and private property and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, misconduct in the execution of the work on the part of the Contractor, such property shall be restored by the Contractor, at his expense, to a condition similar or equal to that existing before the damage was done.
  - 2. All sidewalks disturbed by the Contractor's operations shall be restored to their original condition by the use of similar or comparable materials. All curbing shall be restored in a condition equal to the original construction and in accordance with the best modern practice.
  - 3. Along the location of this work all fences, walks, bushes, trees, shrubbery, and other physical features shall be protected and restored in a thoroughly workmanlike manner. Fences and other features removed by the Contractor shall be replaced in the original location as soon as conditions permit. All grass areas beyond the limits of construction which have been damaged by the Contractor shall be regraded and seeded.
  - 4. The protection, removal, and replacement of existing physical features along the line of work shall be a part of the work under the Contract, and all costs in connection therewith shall be included in the unit and/or lump sum prices established under the items in the Proposal.
  
- G. Protection and relocation of existing structures and utilities:
  - 1. The Contractor shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including poles, signs, services to buildings, utilities in the street, such as pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables, whether or not they are shown on the Drawings. The Contractor shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the Contractor's operations shall be repaired by him at his expense.

2. Protection and temporary removal and replacement of existing utilities and structures as described in this Section shall be considered as extra work and all costs in connection therewith shall be as outlined in the General Conditions.
  3. If, in the opinion of the Owner, permanent relocation of a utility is required, he may direct the Contractor, in writing, to perform the work. Work so ordered will be paid for at the Contract unit prices, if applicable, or as extra work under the General Conditions. If relocation of a privately owned utility is required, the Owner will notify the Utility to perform the work as expeditiously as possible. The Contractor shall fully cooperate with the Owner and Utility, and shall have no claim for delay due to such relocation. The Contractor shall notify public utility companies in writing at least 48 hours (excluding Saturdays, Sundays, and legal holidays) before excavating in any public way.
- H. Water for construction purposes: The express approval of the Owner shall be obtained before water is used. Hydrants shall only be operated under the supervision of the Owner. Contractor shall be responsible for obtaining a hydrant meter from the Owner for this water use. Contractor shall be responsible for all cost associated with hydrant meter.
- I. Maintenance of flow: The Contractor shall at his own cost, provide for the flow of sewers, drains, and water courses interrupted during the progress of the work, and shall immediately cart away and remove all offensive matter. The entire procedure of maintaining existing flow shall be fully discussed with the Owner well in advance of the interruption of any flow.

## 2.2 TESTING

- A. Open Excavations
1. All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The Contractor shall, at his own expense, provide suitable and safe bridges and other crossings for accommodating travel by Owner's Representative, pedestrians and workmen. Bridges provided for access to private property during construction shall be removed when no longer required. The length of open trench will be controlled by the particular surrounding conditions, but shall always be confined to limits minimizing interference with plant operating personnel and not endangering existing facilities. Maximum length of open trench is not to exceed 100 feet ahead of pipe laying and backfilling in paved areas and not too exceed 200 feet ahead of pipe laying and backfilling in unimproved areas.
  2. If the open excavation becomes a hazard or if it excessively restricts traffic, Contractor shall engage construction procedures such as limiting the length of open trench, prohibiting stacking excavated material in the street, and requiring that the trench shall not remain open overnight.

3. The Contractor shall take precautions to prevent injury to the public due to open trenches. All trenches, excavated material, equipment, or other obstacles which could be dangerous to the public shall be well lit at night.

### 2.3 CLEANUP

During the course of the work, the Contractor shall keep the site of his operations in as clean and neat a condition as is possible. He shall dispose of all residue resulting from the construction work and, at the conclusion of the work, he shall remove and haul away any surplus excavation, broken pavement, lumber, equipment, temporary structures, and any other refuse remaining from the construction operation, and shall leave the entire work site in a neat and orderly condition.

**END OF SECTION**

**SECTION 01025 – MEASUREMENT AND PAYMENT**

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Methods of measurement and payment for items of work under the Bid Schedule.

1.2 SUMMARY

- A. The total bid price shall cover all work required by the Contract Documents. All costs in connection with the proper and successful completion of the work, including all materials, equipment, supplies, and appurtenances; providing all equipment and tools; and performing all necessary labor and supervision to fully complete the work, shall be included in the unit and lump sum prices bid.
- B. All work not specifically set forth as a pay item in the Bid Form shall be considered subsidiary obligations of Contractor and all costs in connection therewith shall be included in the prices bid.
- C. All estimated quantities stipulated in the Bid Form or other Contract Documents are approximate and are to be used only:
  - 1. As a basis for estimating the probable cost of the Work.
  - 2. For the purpose of comparing the bids submitted for the Work.
- D. The basis of payment for work shall be in accordance with the unit price bid items in the Bid Schedule and shall be full compensation for all labor, materials, and equipment required to furnish, install, construct, and test the Work covered under the unit price bid item. Payment for new work, replacement work, rehabilitation, and rehabilitation-related activities or any other items of work for payment will be made on a linear foot, vertical foot, square foot, square yard, cubic yard, or each based on the Contractor's measurement, contingent on verification by Owner's Representative. Contractor agrees he will make no claim for damages, anticipated profits, or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished.
- E. Payment will be made only for the actual quantities of work performed in compliance with the Drawings and Specifications. The Contractor will be paid an amount equal to the approved quantity times applicable unit price. Any unused balance of the unit price work shall revert to the Owner upon completion of the project.
- F. Pay requests for work performed shall be itemized by asset. The pay request should list each asset by ID number, describe the work performed per the payment bid

form, provide the unit cost, and provide the extended cost. When seeking partial payment where work was attempted and could not be completed, adequate information should be provided on the pay request to justify the amount requested.

- G. Pay Items bearing a GDOT Pay Item No. shall be measured and paid per GDOT Standard Specifications Construction of Transportation Systems, 2013 Edition (GDOT Standard Specs).

### 1.3 MEASUREMENT AND PAYMENT

- A. Grading Complete: Bid Item 210-0100. Measurement and payment will be per the requirements of GDOT Standard Specs with the following additions. Payment will constitute full compensation for all costs associated with any jacking, receiving, drilling, and/or other pits required to conduct jacking, boring, or microtunneling work. These costs include, but are not necessarily limited to all materials, equipment, engineering costs, permitting, shoring, bracing, excavation, storage, dewatering, additional safety measures, additional erosion and sedimentation control, backfilling, compacting, and all things necessary to excavate, prepare, executed drilling/boring operations, backfilling, and restoring the required pits. #57 Stone or GAB used to provide a dry or stable work surface in the pits will be paid at the unit price bid for each item.
- B. #57 Stone: Bid Item SP-3: Measurement for payment will be for each cubic yard (CY) installed and tamped. Payment will constitute full compensation for all costs associated with #57 Stone, including materials, transport, storage, installation, tamping, tamping equipment, geotextile fabric, #57 Stone will not be measured for payment when used as a pipe bedding material. When used as pipe bedding material, #57 Stone shall be incidental to the pipe being installed.
- C. Cam Lock Coupling: Bid Item SP-2. Measurement for payment will be for each cam lock and cap provided for the force main pump out assembly. The specifications for the cam lock coupling, also known as a “quick disconnect,” shall be per DWM Pump Station Standards. Payment will constitute full compensation for all costs associated with providing and installing #316 stainless steel cam lock couplings.
- D. Microtunneling: Bid Item SP-4. Measurement for payment shall be the horizontal length of tunnel bored and placed into service that meets the lines and grades indicated on the drawings. Microtunneling shall only be initiated upon approval by the Engineer and the Owner. Payment will constitute full compensation to complete the work as described in Section 02441 – Microtunneling with the exception of the work described under Bid Item Grading Complete – 210-0100.

- E. Coordinated Site Restoration: Bid Item 004-0022 shall have the same general meaning and use as defined in GDOT Standard Specs Subparagraph 101.27 – Extra Work, and is intended to be a line item maximum sum that, at the Owner’s sole discretion, may be accessed to fund execution of Project Site and/or System Restoration, as the Owner may determine to be necessary, to complete the intended purpose of the Project. Procedures governing the use of the Coordinated Site Restoration pay item shall generally be as per **SECTION 109.05 – MEASUREMENT AND PAYMENT – EXTRA WORK**. The prices charged to Owner by Contractor for such work, when requested, for the Coordinated Site Restoration shall be developed in general agreement with **SECTION 109.05, Subparagraph B**. After approval by the Owner of the approach, schedule, and costs submitted by the Contractor to perform the Coordinated Site Restoration Work, a Directive may be issued to the Contractor to execute the Work as described at the approved cost.

**END OF SECTION**

**SECTION 02441 – MICROTUNNELING**

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Section includes requirements for installing pipe by use of Microtunneling and Pilot Tube Microtunneling operations as defined herein.
- B. Contractor.
  - 1. Responsible for selection of Microtunneling means and methods and is subject to be reviewed by the Owner’s Representative.
  - 2. Furnish all labor, equipment, and material required to complete the work, including but is not limited to; Microtunneling system, spoil transportation and separation, hoisting, lifting, safety, and control equipment
  - 3. Furnish all labor, equipment, and material for jacking and receiving pit construction, complete in place including, but not limited to: sediment controls, re-handling and disposal of unsuitable materials, dewatering, utility adjustments/support, tests, excavation, sheeting and shoring, backfilling, cleanup, security, restoration of surface features, and other related work necessary for construction as specified or as shown on the drawings.
  - 4. When grout is required work includes mix design requirements, testing, furnishing and production of grout for:
    - i. Pressure grouting of bolted liner plates for shafts.
    - ii. Pressure grouting of primary tunnel liner.
    - iii. Pressure grouting of jacked-pipe.
    - iv. Annular grouting uncased sewer pipe.
    - v. Grouting voids in ground resulting from caving, loss of ground, or settlement.
    - vi. Grouting of manholes constructed in shafts.
    - vii. Compaction grouting is not part of this specification.

1.2 DEFINITIONS

- A. Microtunneling: Installing casing pipe by jacking pipe behind a remotely controlled, steerable, guided Microtunnel Boring Machine (MTBM) which fully supports excavated face with either slurry or earth pressure balance at all times.

- B. Pilot Tube Microtunneling (PTMT): Multi- stage method of accurately installing a product pipe to line and grade by use of a guided pilot tube and followed by upsizing to install the product pipe. The system must use a guidance system to insure accuracy, is remotely operated and does not require man entry to the tunnel for normal operations. The guidance system, consisting of target, theodolite, camera, and monitor, can detect the deviation of the drilling profile and gives the operator continuous information about the the steering head location.
  
- C. Slurry Pressure Balance System
  - 1. Microtunneling system mixing excavated material with slurry in a chamber located behind the cutting head.
  - 2. Low pressure slurry is used to balance ground and water pressure at the face of tunnel, limit settlement, and convey cuttings back to ground surface.
  - 3. Cutting are removed or separated and slurry is recirculated back to MTBM.
  
- D. Earth Pressure Balance System
  - 1. Microtunneling system incorporating continuous flight auger enclosed in separate casing inside casing pipe being jacked
  - 2. Positive pressure is maintained at excavated face by regulating volume of cuttings removed relative to advance rate of MTBM.
  
- E. Tunnel Boring Machine (TBM): Mechanized excavating equipment is steerable, guided and articulated, connected to and shoved forward by the pipe being installed, with man entry.
  
- F. Microtunnel Boring Machine (MTBM): Mechanized excavating equipment is remotely-controlled, steerable, guided and articulated, connected to and shoved forward by the pipe being installed, usually precluding man entry.
  
- G. Tunneling Methodology: A written description, together with supporting documentation defining Contractor's plans and procedures for the microtunneling or pipe jacking operations.
  
- H. Jacked Pipe: A method for installing sewer pipe serving as initial construction lining and tunnel support, installed for stability and safety during construction, and as the sewer pipe. The pipe is shoved forward, or jacked, as the tunnel is advanced.
  
- I. Zone of Active Excavation: Area located within a radial distance about a surface point immediately above the face of excavation equal to the depth to the bottom of the excavation.
  
- J. Critical Structure: Any building, structure, pipeline, utility, bridge, pier, or similar construction partially or entirely located within a zone of active excavation.

- K. Pressure Grouting: Filling a void behind a liner or pipe with grout under pressure sufficient to ensure void is properly filled, but without overstressing temporary or permanent ground support, or causing ground heave to occur.
- L. Back Grouting: Secondary pressure grouting to ensure voids have been filled between shaft liners and the surrounding ground.
- M. Annular Grouting: Filling the annular space between the carrier pipe and the ground, by pumping.
- N. Ground Stabilization Grouting: Filling voids, fissures, or under-slab settlement due to caving or loss of ground by injecting grout under gravity or pressure to fill the void.
- O. Casing Pipe: Pipe capable of withstanding installation forces due to jacking and other construction or temporary loads in addition to permanent live and dead loads.
- P. Jacking & Receiving Pits: Working pits between where casing is installed by means of Microtunneling technique for Microtunnel jacking and equipment retrieval.
- Q. Drive: Section of casing pipe installed by Microtunneling from Jacking Pit to Receiving Pit.
- R. Spoil: Excavated material that has been mixed with either water or slurry and pumped to surface to be separated and recycled or disposed.

### 1.3 QUALIFICATIONS AND QUALITY ASSURANCE

- A. Tunneling and Microtunneling is deemed to be specialty contractor work. If the Contractor elects to perform the work, the Contractor shall provide evidence of experience to the Owner's Representative.
  - 1. A minimum of five (5) continuous years of experience in tunneling and microtunneling construction is required of the installer for the selected microtunneling method. Evidence of this experience shall be provided with the shop drawings for review by the Owner's Representative.
  - 2. The Contractor will have completed at least 30,000 linear feet of microtunneling installations.
- B. Field supervisory personnel employed by the Tunneling or Microtunneling Contractor will have at least five (5) years' experience for the selected microtunneling method in the performance of the work and tasks as stated under the submittal section herein.

- C. Operators employed by the Tunneling or Microtunneling Contractor will have at least three (3) years' experience for the selected microtunneling method in the performance of the work and tasks as stated under the submittal section herein.
- D. Operate systems following manufacturer's instructions and make available at all times copies of operations manuals to Engineer and Operational Personnel on site.
- E. Test full system on completion of set up and before commencing drive
- F. Before commencement of any drive Contractor to demonstrate to Owner's Representative that required set up procedures and system checks are complete and required materials are at hand to commence drive. Receiving pit construction shall be complete before driving can commence.

#### 1.4 SUBMITTALS

- A. Submittal formatting shall follow the requirements stated in Section 01300, Submittals.
- B. If modifications are required during construction, submit to Engineer for approval information illustrating such modifications, including reasons.
- C. Qualifications:
  - 1. Submit documentation showing the Contractor, field supervisory personnel, and operators meet the minimum required qualifications stated in Section 1.3.
  - 2. Include a list of a minimum of three wastewater collection projects similar in scope and value to the project specified in the contract documents. Information must include, but not be limited to, date and duration of work, location, pipe information (i.e. length, diameter, depth of installation, pipe material, etc.), project owner information (i.e. name, address, telephone number, contact person), and the contents handled by the pipeline (water, wastewater, etc.).
- D. Materials:
  - 1. Submit pipe material reference sheets and manufacturer's certification of pipe meeting or exceeding the required specifications.
  - 2. Submit a description of materials, grout mix, equipment and operational procedures to accomplish each grouting operation. The description may include sketches, as appropriate, indicating type and location of mixing equipment, pumps, injection points, venting method, flow lines, pressure measurement, volume measurement, grouting sequence, schedule, and stage volumes.
    - i. Submit a grout mix design report, including:

- 1) Grout type and designation.
  - 2) Grout mix constituents and proportions, including materials by weight and volume.
  - 3) Grout densities and viscosities, including wet density at point of placement.
  - 4) Initial set time of grout.
  - 5) Bleeding, shrinkage/expansion.
  - 6) Compressive strength.
- ii. For cellular grout, also submit the following:
- 1) Foam concentrate supplier's certification of the dilution ratio for the foam concentrate.
  - 2) A description of the proposed cellular grout production procedures.
- iii. Maintain and submit logs of grouting operations indicating pressure, density, and volume for each grout placement.
- E. Tunneling Methodology: Submit a brief description of proposed tunnel methodology to convey the following:
1. Proposed method of tunnel construction and type of face support. Including but not limited to, procedures and resources that will be employed to carry out work
  2. Manufacturer and type of tunneling equipment proposed. Describe type of lighting and ventilation systems.
  3. Number and duration of shifts planned to be worked each day.
  4. Sequence of operations.
  5. Locations of access shafts and work sites. Describe method of construction for tunnel shafts.
  6. Establishment of drive line and elevation at base of shaft
  7. Pipe/casing pipe connections
  8. Method of maintaining line and grade, and reestablishment of line and grade as required
  9. Method of spoil separation and transportation from the face, surface storage and disposal location.
  10. Spoil and slurry containment during work
  11. Installation of carrier pipe, including placement of grout between carrier pipe and casing pipe, and procedures to prevent floatation during grouting
  12. Capacity of jacking equipment and type of cushioning.

13. Identify critical utility crossings and special precautions proposed.
  14. Slurry injection system details.
- F. Tunnel jacking and receiving pits: Submit jacking and receiving pit construction drawings together with calculations to include, as a minimum:
1. Shaft dimensions, design criteria, and details for ground support system, such as sheeting, shoring, bracing, and stabilization, protection of the excavation, special requirements for shaft penetrations, tunnel "eye", starter and back tunnels, and seal slabs. Allowable surcharge loads and any restrictions on surcharge capacity, including live loads, shall be clearly shown on the shaft construction drawings. Thrust blocks or other reactions required for pipe jacking shall be shown, if applicable.
  2. Location of shafts by station and limits of working sites.
  3. Description of site security arrangements.
  4. Description of method of extending the shaft above the flood.
  5. Any geotechnical / boring undertaken by the Contractor, for whatever purpose, connected to the Work.
  6. Submit shaft temporary deck drawings and calculations in the event a shaft is not needed for immediate construction activity, per Subsection 819-1.5.b.
  7. Shaft design submittals by the Contractor shall be signed and sealed by a Professional Engineer registered in the State of Georgia.
- G. Drawings and Calculations: Submit for record purposes, drawings, and calculations for any tunnel support system designed by the Contractor.
1. Drawings shall be adequate for construction, and include installation details.
  2. For pipe jacking and microtunneling show pipe and pipe joint detail.
  3. Documents must be signed and sealed by a Professional Engineer registered in the State of Georgia.
  4. Calculations shall include clear statement of criteria.
  5. Owner's Representative shall review of all the drawings and calculations is for information purposes and overall compliance.
- H. Quality Control: Submit for review a brief description of quality control methods including:
1. Method and frequency of survey control.
  2. Example of tunnel daily log.

- I. Geotechnical Investigation: When geotechnical investigations are conducted by the Contractor, submit results in both hardcopy and electronic form to the Owner's Representative for record purposes.
- J. Monitoring Plans: The Contractor shall provide monitoring plans per Subsection 3.10 for assessing ground movement (settlement or heave) due to drilling operations as follows:
  - 1. Instrumentation Monitoring Plan: Submit for review, prior to construction, a monitoring plan including a schedule of instrumentation design, layout of instrumentation points, equipment installation details, manufacturer's catalog literature, and monitoring report forms.
  - 2. Surface Settlement Monitoring Plan: Submit a settlement monitoring plan for review prior to construction. The plan shall identify the location of settlement monitoring points, reference benchmarks, survey frequency and procedures, and reporting formats.
- K. Structures Assessment: Pre-construction and post-construction assessment reports shall be provided for critical structures, namely those located within the zone of active excavation from the proposed tunnel centerline. Photographs or a video of any existing/pre-construction damage to structures in the vicinity of the sewer alignment shall be included in the assessment reports.
- L. Submit all monitoring readings to the Owner's Representative.
- M. Daily Reports: The shift log, as defined in Subsection 3.5, Pipe-jacked Tunneling Data, shall be maintained by the Contractor and must be made available to the Owner's Representative on request.
- N. Traffic Control Plan: If traffic maintenance is required as part of the Work, a Traffic Control Plan will be submitted to the appropriate agency for review and approval. The plan shall include an outline of the permit acquisition procedure for lane closure, methods for proper signing and barricades complying with local requirements, and the GDOT, and Contractor telephone numbers for emergencies. A copy of the approved traffic control plan shall be submitted to the Owner's Representative for informational purposes only

## 1.5 RECORD DRAWINGS

- A. Maintain a complete set of field drawings for recording record drawing conditions at the construction site at all times.
- B. Properly date and initial all record drawing conditions, corrections, or changes.

1.6 DESIGN CRITERIA

A. Pipe:

1. Contractor is responsible for selection of the appropriate pipe and pipe joints to carry the thrust of any jacking forces or other construction loads in combination with overburden, earth and hydrostatic loads. Design of any pipe indicated on the Contract Documents considers in-place loads only and does not take into account any construction loads. The criteria for longitudinal loading (jacking forces) on the pipe and joints shall be determined by the contractor, based on the selected method of construction.
2. The jacked pipe shall be designed to withstand the thrust from the MTBM, TBM, PTMT or shield and pipe advance without damage or distortion. The propulsion jacks shall be configured so that the thrust is uniformly distributed and will not damage or distort the pipe.
3. Take into account loads from handling and storing.
4. The criteria to be used at railroad crossings shall be as specified by the AREA Manual for Railway Engineering and as otherwise specified by the Railroad Agency having jurisdiction. In the design, account for additive loadings due to multiple tracks.
5. The criteria to be used for truck loading shall be HS-20 vehicle loading distributions in accordance with AASHTO and as otherwise specified by the LADOTD.
6. Provide pipes of diameter shown on the Contract Documents. Substitution of pipe with larger diameter to suit MTBM, TBM, or PTMT equipment availability will only be permitted if the Contractor can demonstrate to the Owner's Representative's satisfaction the design flows and velocities can be achieved.
7. All tunneled pipes 36-inches in diameter or larger shall have grout injection ports built into the pipe at the 12 o'clock position for pumping slurry during the pipe installation and for grouting the annular space once the tunneling is complete.

B. Tunnel Shafts:

1. Shaft design must include allowance for contractor's equipment and stored material and spoil stockpile as appropriate. Design must also allow for HS-20 highway loading if located in the vicinity of a paved area.
2. The shaft shall be designed to withstand full hydrostatic head without failure.
3. Shaft located within the 100-year floodplain shall be designed with a water retaining liner extending 2 feet above the 100-year flood elevation. It is acceptable if liner is stored at the site for immediate installation in lieu of its being installed at the shaft, provided that the shaft liner extends at least 2 feet above existing ground elevation.

4. Shaft cover, if used in lieu of shaft perimeter security fencing, shall be designed for a minimum 25 pounds per square foot distributed load plus a 300- pound point load.
5. Steel plate deck, if such is required, shall be designed for HS-20 loading.

## PART 2 – PRODUCTS

### 2.1 CASING PIPE

- A. The casing shall be new and unused pipe. The casing shall be made from steel plate having minimum yield strength of 35,000 psi. The steel plate shall also meet the chemical requirements of ASTM A36.
- B. The outside of the casing pipe shall be coated with coal tar epoxy having a minimum dry film thickness of sixteen (16) mils. Surface preparation shall be SSPC-SP-10. Epoxy shall have a minimum solids content of sixty-five (65) percent by volume and shall be air or airless spray applied; minimum drying time shall be seven days. Brushing shall be permitted in small areas only. All coating and recoating shall be done in strict accordance with the manufacturer's recommendations
- C. Wall thickness shall be as required by the Contractor's signed and sealed thickness calculations or at a minimum wall 3/8 inch thick , whichever is greater
- D. Joints: Fully welded around circumference of pipe
  1. Weld of sufficient strength to withstand forces at pipe joints without any distortion of pipes
- E. Modifications to design of steel casing pipe for MTBM compatibility
  1. Make request to Owner's Representative.

### 2.2 SEWER PIPE

- A. Contractor shall be responsible for selecting appropriate pipes and pipe joints to safely carry the loads imposed during construction, including jacking forces and meet applicable requirements found in Section 02537, Ductile Iron Sanitary Sewer Pipe and Fittings.

### 2.3 SLURRY

- A. Slurry will be a mixture of water and bentonite clay. The fluid will be inert. The fluid should remain in the tunnel to ensure the stability of the tunnel, reduce drag on the jacked pipe, and provide backfill within the annulus of the pipe and tunnel.

- B. Disposal of excess slurry and spoils will be the responsibility of the Contractor who must comply with all relevant regulations, right-of-way, workspace, and permit agreements. Excess slurry and spoils will be disposed at an approved location. The Contractor is responsible for transporting all excess slurry and spoils to the disposal site and paying any disposal costs. Excess slurry and spoils will be transported in a manner preventing accidental spillage onto roadways. Excess slurry and spoils will not be discharged into sanitary or storm drain systems, ditches or waterways.
- C. Mobile spoils removal equipment capable of quickly removing spoils from the microtunneling machine face will be present during drilling operations to fulfill the requirements of item B. above.
- D. The Contractor will be responsible for making provisions for a clean water supply for mixing the slurry.

## 2.4 GROUTING MATERIALS

Prepare mixes satisfying the required application. Materials used in grout mix shall meet the following standards:

- A. Cementitious Material:
  - 1. Portland Cement: ASTM C 150, Type II, unless the use of Type III is authorized by the Owner's Representative; or ASTM C 595, Type IP. For concrete in contact with sewage use Type II cement.
  - 2. When aggregates are potentially reactive with alkalis in cement, use cement not exceeding 0.6 percent alkali content in the form of  $\text{Na}_2\text{O} + 0.658\text{K}_2\text{O}$ .
- B. Water: Clean, free from harmful amounts of oils, acids, alkalis, or other deleterious substances, and meeting requirements of ASTM C 94.
- C. Fine Aggregate: ASTM C 33. Determine the potential reactivity of fine aggregate in accordance with the Appendix to ASTM C 33.
- D. Fluidifier: Use a fluidifier meeting ASTM C 937 that holds the solid constituents of the grout in colloidal suspension and is compatible with the cement and water used in the grouting operations.
- E. Admixtures:
  - 1. Use admixtures meeting ASTM C 494 and ASTM C 1017 as required, to improve pumpability, to control time of set, to hold sand in suspension and to reduce segregation and bleeding.
  - 2. For cellular grout, do not use foam or admixtures promoting steel corrosion.

3. Ensure admixtures used in a mix are compatible. Provide written confirmation from the admixture manufacturers of their compatibility.
- F. Water Reducers: ASTM C 494, Type A.
1. Water Reducing Retarders: ASTM 494, Type D.
  2. High Range Water Reducers (Superplasticizers): ASTM C 494, Types F and G.
- G. Prohibited Admixtures: Admixtures containing calcium chloride, thiocyanate, or materials contributing free chloride ions in excess of 0.1 percent by weight of cement.
- H. Grout Type Applications:
1. Grout for pressure grouting and back grouting: Sand-cement mortar mix.
  2. Grout for annular grouting: Low density (cellular) grout or sand-cement mortar mix.
  3. Ground stabilization: Sand cement mortar mix.
- I. Do not include toxic or poisonous substances in the grout mix or otherwise inject such substances underground.
- J. Provide grout meeting the following minimum requirements:
1. Minimum 28-day unconfined compressive strength: 1000 psi for sand-cement mortar grout; 300 psi for cellular grout.
  2. Determine strength by ASTM C 942.
  - 3.

## PART 3 – EXECUTION

### 3.1 GENERAL

- A. Dewatering per Section 02205 – Dewatering.

### 3.2 CONSTRUCTION OPERATIONS CRITERIA

- A. Use methods for microtunneling and pipe-jacked tunneling operations minimizing ground settlement. Select a method controlling water flow, preventing loss of soil into the tunnel, and providing stability of the face under anticipated conditions.
- B. The Pilot Tube Microtunneling system shall utilize a two or three phase system as described below:
1. Three Pass System

- i. Phase 1 – Install a rigid steel pilot tube, in approximately one-meter lengths, through the ground from the drive shaft to the receiver shaft by earth displacement with the jacking frame. The alignment of the pilot tube shall be established with a theodolite mounted at the rear of the drive shaft and accurately set to the desired line and grade. The theodolite shall view a lighted target in the lead or steering pilot tube. A camera shall be fitted to the theodolite and shall transmit the image of the crosshair and the target onto a monitor screen to be viewed in the drive shaft by the operator. As the operator advances the pilot tube through the earth the center of the target will drift from the crosshair as a result of the biased or slanted leading tip of the pilot tube. The operator shall rotate the pilot tube as required to orient the slanted steering tip toward the crosshair and continue to advance the pilot tube until it reaches the receiver shaft.
- ii. Phase 2 – Rigidly connect an enlargement casing with an outside diameter up to 1 ½” larger than the product pipe to the final pilot tube and advanced into the earth behind the pilot tube. An auger shall be used inside the enlargement casing to remove the excavated material. The auger shall be contained inside the limits of the enlargement casing as it progresses along the proposed alignment. A train of temporary steel casings with an outside diameter very similar to the enlargement casing will be used to move the enlargement casing from the drive shaft to the receiver shaft. The enlargement casing will cut a bore hole from the drive shaft to the receiver shaft and the temporary casings will case the hole as it is cut. Each temporary casing shall be fitted with an internal auger to transport the excavated material to the drive shaft where it shall be removed from the shaft and disposed of at an approved location. The pilot tubes shall be recovered in the receiver shaft as the temporary casings are installed.
- iii. Phase 3 – The product pipe shall then be installed directly behind the final temporary casing pipe with the jacking frame. The casing pipes and augers shall be recovered in the receiver shaft as the product pipe is installed.

## 2. Two Pass System

- i. Phase 1 – The pilot tube shall be installed in the same manner described Phase 1 of the Three Pass System.
- ii. Phase 2 – The enlargement casing shall be installed in the same manner described in Phase 2 of the Three-Phase System. Each product pipe shall be fitted with an internal protective-casing pipe

to house the auger and prevent damage to the product pipe. The product pipe shall be installed directly behind the enlargement casing with the internal casing rigidly connected to the auger chamber of the enlargement casing. The internal casing shall be manufactured so the excavated material does not leak excessively into the product pipe. The internal casing shall be fitted with a protective shoe to protect the product pipe from damage and to support the casing and auger at the centerline of the pipe. Advance the product pipe along the proposed alignment with the jacking frame progressively enlarging the casing from the drive shaft to the receiver shaft with the pilot tubes being recovered in the receiver shaft. The excavated material shall be funneled into and conveyed through the internal casing to the drive shaft where it shall be removed from the shaft and disposed of at an approved location. Upon reaching the receiver shaft, the enlargement casing shall be removed and the internal casings and augers retracted and recovered at the drive shaft.

- C. Conduct tunneling operations per the applicable safety rules and regulations, OSHA standards and Contractor's safety plan. Use methods protecting the safety of workmen, adjacent structures, utilities, and the public.
- D. Maintain clean working conditions on the project site.
- E. For tunneling under railroad embankments, highways, or streets, perform the installation as to avoid interference with the operation of the railroads, highways, or streets, except as approved by the owner of the facility.

### 3.3 LOCATION OF TUNNEL SHAFTS

- A. The number of tunnel shafts shall be kept to a minimum and shall typically be sited at proposed manhole locations.
- B. When shaft sites are indicated on the Contract Documents, the Contractor may alter locations of shaft sites as needed for construction operations. Relocation shall be subject to the Owner's Representative's approval.
- C. Locate shafts and associated work areas to avoid blocking driveways and cross streets, and to minimize disruption to business and commercial interests. Avoid shaft locations near areas identified as residential or potentially contaminated.
- D. Locate shafts and associated work areas to avoid any major utility relocations. Any required utility relocations for shaft construction shall be coordinated by Contractor with the utility owner.
- E. The Contractor shall verify all existing utilities, pipelines, and structures in the project area and take all precautions and measures to protect them during the installation, subsequent tunneling and backfilling of the shafts after completing the sanitary sewer installations. Relocating publicly or privately-owned utilities for constructing temporary shafts are considered incidental to shaft construction and shall be included in the Tunnel Shaft unit price.
- F. Plan shaft locations to minimize interference with storm drainage channels, ditches, water mains, sanitary sewers, storm water sewers or culverts, if damaged, could result in ground washout or flooding of shafts and tunnels.

### 3.4 EQUIPMENT

- A. Full directional guidance of a shield, TBM, or MTBM is a prerequisite of this method of construction.
- B. The Contractor shall be responsible selecting the tunneling equipment based on past experience, has proven to be satisfactory for excavating the soils to be encountered.
- C. The Contractor shall employ tunneling equipment capable of handling the various anticipated ground conditions, minimizing loss of soil ahead of and around the machine, and shall provide satisfactory support of the excavated face.
- D. The TBM used for pipe-jacking shall conform to the shape of the tunnel with a uniform perimeter free of projections producing over-excavation or voids. An appropriately sized overcutting head may be provided to facilitate steering. In addition it shall:

1. Be capable of full face closure.
  2. Be equipped with appropriate seals to prevent loss of bentonite lubricant.
  3. Be capable of correcting roll by reverse drive or fins.
  4. Be designed to handle adverse ground conditions including ground water inflow.
  5. Be equipped with visual display to show the operator actual position of TBM relative to design reference.
- E. If a hand shield is used for pipe-jacked tunneling, with or without attached mechanized excavating equipment, the shield must be capable of handling the various anticipated ground conditions. In addition, the shield shall:
1. Conform to the shape of the tunnel with a uniform perimeter free of projections producing over-excavation or voids. An appropriately-sized overcutting head may be provided to facilitate steering.
  2. Be designed to allow the face of the tunnel to be closed by using gates or breasting boards without loss of ground.
- F. In the case of MTBM, use a spoil transportation system which:
1. Either balances the soil and ground water pressures by the use of a slurry or earth pressure balance system. System shall be capable of adjustments required to maintain face stability for the particular soil condition and shall monitor and continuously balance the soil and ground water pressure to prevent loss of slurry or uncontrolled soil and ground water inflow or, in the case of a slurry spoil transportation system:
    - i. Provides pressure at the excavation face by use of the slurry pumps, pressure control valves, and a flow meter.
    - ii. Includes a slurry bypass unit in the system to allow the direction of flow to be changed and isolated, as necessary.
    - iii. Includes a process designed to provide adequate separation of the spoil from the slurry so slurry with sediment content within the limits required for successful tunneling can be returned to the cutting face for reuse. Appropriately contain spoil at the site prior to disposal.
    - iv. Uses the type of separation process suited to the size of tunnel being constructed, the soil type being excavated, and the workspace available at each work area for operating the plant.
    - v. Allows the composition of the slurry to be monitored to maintain the slurry weight and viscosity limits required.
  2. In the case of a cased auger, earth pressure balance system, the system shall be capable of adjusting to maintain face stability for the particular soil condition to be encountered. Monitor and continuously balance the soil and ground water pressure to prevent loss of soil or uncontrolled ground water inflow.

3. In a cased auger spoil transportation system; manage the pressure at the excavation face by controlling the volume of spoil removal with respect to the advance rate. Monitor the speed of rotation of the auger flight, and the addition of water.
  4. Provide an MTBM to include a remote control system with the following features:
    - i. Allows for operation of the system without the need for personnel to enter the tunnel. Has a display available to the operator, at a remote operation console, showing the position of the shield in relation to a design reference together with other information, such as face pressure, roll, pitch, steering attitude, valve positions, thrust force, and cutter head torque, rate of advance, and installed length.
    - ii. Integrates the system of excavating and removing spoil and its simultaneous replacement by pipe. As each pipe section is jacked forward, the control system shall synchronize all of the operational functions of the system.
  5. Provide an MTBM to include an active direction control system with the following features:
    - i. Controls line and grade by a guidance system relating the actual position of the MTBM to a design reference, i.e., by a laser beam transmitted from the jacking shaft along the pipe to a target mounted in the shield.
    - ii. Provides active steering information monitored and transmitted to the operating console.
    - iii. Provides positioning and operation information to the operator on the control console.
  6. Use generator suitably insulated for noise reduction in residential or commercial areas. Use of generator must be per local or county noise ordinance.
- G. In the case of PTMT the following are minimum major components required:
1. Line and Grade Control System – The control system shall include, but not limited to, a theodolite, lighted target, camera, and monitor screen. The equipment must be capable of installing the pipe to the desired line and grade with a tolerance described in Section 3.9

2. Jacking Frame – The jacking frame shall possess adequate strength to advance the pilot tube, the enlargement casing, and the string of product pipe from the drive shaft to the receiver shaft. The jacking force shall be easily regulated down to the safe working load rating of the pipe. The frame shall develop a uniform distribution of jacking forces on the end of the pipe. The auger motor shall possess adequate torque to steer the pilot tube and adequate torque and speed to effectively auger the excavated material from the face of the bore to the drive shaft.
3. Pilot Tube – The pilot tubes shall be constructed of steel in rigid, but short sections, to accommodate the small drive and receiver shafts. The tubes shall rigidly connect to each other, the steering tip, and the enlargement casing and have a clear inside diameter large enough to adequately view the lighted target. The tubes shall withstand the torque encountered in the steering process.
4. Enlargement Casing – The enlargement casing shall be constructed of steel to a diameter just larger than the product pipe and have a leading connection compatible with the pilot tube. The leading face of the casing shall possess several large openings for the soil to enter as it advances along the proposed alignment. An internal auger chamber shall funnel the excavated material into the temporary full diameter casings of the Three-Phase Process or into the internal auger casings of the Two-Phase Process. Structural members shall connect the leading edge of the casing to the pilot tube connections.
5. Soil Transportation System – The soil transportation system shall consist of an auger train operating inside the full diameter temporary steel casings of the Three-Phase System and an internal casing and auger train operating inside the product pipe. The internal casings of the Two-Phase Process shall be manufactured to minimize leakage of the excavated material into the product pipe.
6. Soil Removal – A soil removal system shall be provided to safely remove the excavated material from the drive shaft to the surface.
7. Hydraulic Power Unit – The hydraulic power unit shall rest on the surface and be connected to the jacking frame by hoses. The unit shall meet all applicable noise standards.
8. Lubrication System – A lubrication system shall be employed to minimize pipe friction to insure that pipe can be installed from the drive shaft to the receiver shaft within the safe working load rating of the pipe. The system may also be required to minimize the torque required to transport the excavated material to the drive shaft.

- H Provide a pipe jacking system with the following features:
1. Has the main jacks mounted in a jacking frame located in the starting shaft.
  2. Has a jacking frame successively pushing a string of connected pipes following the tunneling excavation equipment towards a receiving shaft.
  3. Has sufficient jacking capacity to push the tunneling excavation equipment and the string of pipe through the ground. Incorporate intermediate jacking stations, if required.
  4. Develops a uniform distribution of jacking forces on the end of the pipe by use of spreader rings and packing, measured by operating gauges.
  5. Provides and maintains a pipe lubrication system at all times to lower the friction developed on the surface of the pipe during jacking.
  6. Use thrust reactions for pipe jacking adequate to support the jacking pressure developed by the main jacking system. Special care shall be taken when setting the pipe guide rails in the jacking shaft to ensure correctness of the alignment, grade, and stability.
  7. Provide equipment to maintain proper air quality of manned tunnel operations during construction in accordance with OSHA requirements.
  8. Enclose lighting fixtures in watertight enclosures with suitable guards.

Provide separate circuits for lighting, and other equipment.

9. Electrical systems shall conform to requirements of National Electrical Code – NFPA 70.

### 3.5 PIPE-JACKED TUNNELING DATA

- A. Maintain shift logs of construction events and observations. The Owner's Representative shall have access to the Contractor's logs with regard to the following information:
1. Location of boring machine face or shield by station and progress of tunnel drive during shift.
  2. Hours worked per shift on tunneling operations.
  3. Completed field forms for checking line and grade of the tunneling operation, showing achieved tolerance relative to design alignment. Steering control logs will generally be acceptable.
  4. Maximum pipe jacking pressures per drive.
  5. Location, elevation and brief soil descriptions of soil strata.
  6. Ground water control operations and piezometric levels.
  7. Observation of any lost ground or other ground movement.
  8. Any unusual conditions or events.
  9. Reasons for operational shutdown in the event a drive is halted.

### 3.6 TUNNEL SHAFT CONSTRUCTION

- A. Ground support systems shall be in accordance with the following:
1. Liner elements, bracing, and shoring structural members shall be installed at the locations, in the method sequence, and tolerances defined on shaft construction drawings as the excavation progresses.
  2. The bracing and shoring shall be in contact with the liner to provide full support as shown in shaft construction drawings. Any modifications to liner, bracing, or shoring shall be evaluated, checked and approved by Contractor's Professional Engineer, and submitted to the Owner's Representative.
  3. A seal slab shall be installed as soon as final depth and stable bottom conditions have been reached and accepted by the Owner's Representative. The seal slab shall be capable of withstanding the full piezometric pressure, either by pressure relief using under drains, or in the case of more permeable ground condition, by the use of a structural reinforced slab. In either case, the seal slab shall be constructed in accordance with the design provided by the Contractor's Professional Engineer.
  4. The entire shaft shall be designed and constructed to appropriate factors of safety against yield, deformation, or instability as determined by Contractor's Professional Engineer, and shall withstand a full hydrostatic head without failure.
  5. Special framing, bracing or shoring required around tunnel "eyes" or other penetrations shall be in-place according to shaft construction drawings before the liner or any bracing or shoring at the penetration is cut or removed.
  6. Conduct annular space grouting in accordance with Section 3.8.
- B. Install suitable thrust or reaction blocks as required for pipe jacking equipment.
- C. Provide drainage from shafts while work is in progress and until adjacent pipe joints have been sealed and the shaft is backfilled. Conform to the requirements with Section -02205, Dewatering.
- D. Divert surface water runoff and discharge from dewatering system away from the shaft. Protect the shafts from infiltration or flooding.
- E. Each surface work site is to be surrounded by a security fence and secured any time the site is unattended by Contractor's personnel.
- F. In addition to the above, the shaft, when not in use shall be protected by a second security fence at the perimeter of the shaft.

- G. A shaft constructed more than 60 days in advance of its intended use shall be covered by a steel plate deck designed by the Contractor's Professional Engineer and approved by the Owner's Representative. The surface will be restored to permit full traffic flow during the time the shaft is not in use. All other Contractor's material, including portable concrete traffic barriers, traffic control system, fencing and other materials and equipment, must be removed from the site and reinstalled at the time the shaft is re-opened for use.
- H. Backfilling and compacting the shaft shall be per Section 02324, Trenching and Trench Backfilling. Grouting manhole or structure annular space per Section 3.8, will be permitted in cases where insufficient workspace exists.
- I. Remove the shaft liner above the level of 8 feet below ground surface, unless otherwise indicated on the Contract Documents. Maintain sufficient ground support to meet excavation safety requirements while removing the shaft structure.
- J. Alternative backfill may be used by the Contractor for backfill of Tunnel Shafts, but must be submitted to the Owners Representative no less than 30 days before use. Approval of an alternative backfill shall meet the testing requirements spelled out in Section 02324, Trenching and Trench Backfilling.

### 3.7 EXCAVATION AND PIPE JACKING

#### A. Tunnel Excavation:

1. Keep tunnel excavation within the servitudes and rights-of-way indicated on the Contract Documents and to the lines and grades designated on the Contract Documents.
2. Perform tunneling operations in a manner that will minimize the movement of the ground in front of and surrounding the tunnel. Prevent damage to structures and utilities above and in the vicinity of the tunneling operations.
3. Open-face excavations:
  - i. During shut-down periods, or failures, support the face of the excavation by positive means; no support shall rely solely on hydraulic pressure.
4. Closed-face excavation:
  - i. Carefully control volume of spoil removed. Advance rate and excavation rate to be compatible to avoid over excavation or loss of ground.
  - ii. When cutting head is withdrawn or is open for any purpose, keep excavated face supported and stabilized.
5. Excavated diameter should be a minimum size to permit pipe installation by jacking with allowance for bentonite injection into the annular space.

6. Obtain the Owner's Representative's approval whenever there is a condition encountered endangering the tunnel excavation or adjacent structures, to operate without intermission including 24-hour working, weekends and holidays, until the condition no longer exists.
7. The Contractor shall be responsible for damage due to settlement from any construction-induced activities. Replacement of all damaged areas shall be the responsibility of the Contractor at no additional cost to the Owner.

B. Pipe Jacking:

1. Cushion pipe joints as necessary to transmit the jacking forces without damage to the pipe or pipe joints.
2. Maintain an envelope of bentonite slurry around the exterior of the pipe during the jacking and excavation operation to reduce the exterior friction and possibility of the pipe seizing in place.
3. If the pipe seizes up in place and the Contractor elects to construct a recovery access shaft, approval must be obtained from the Owner's Representative. Coordinate traffic control measures and utility adjustments as necessary prior to commencing work.
4. In the event a section of pipe is damaged during the jacking operation, or joint failure occurs, as evidenced by inspection, visible ground water inflow or other observations, the Contractor shall submit to the Owner's Representative for approval the methods for repair or replacement of the pipe. Any pipe damaged or misaligned shall be removed and replaced by the Contractor at no additional cost to the Owner.
5. Overcutting shall be remedied by grouting along the entire length of the installation.
6. All tunneled pipes 36-inches in diameter or larger shall have grout injection ports built into the pipe at the 12 o'clock position for pumping slurry during the pipe installation and for grouting the annular space once the tunneling is complete.

### 3.8 GROUTING

A. Preparation:

1. Notify the Owner's Representative at least 24 hours in advance of grouting operations.
2. Select and operate grouting equipment to avoid damage to new or existing underground utilities and structures.
3. In selecting grouting placement, consider pipe flotation, length of pipe, length of tunnel, depth from surface, and type of sewer pipe, type of pipe blocking and bulkheading, grout volume and length of pipe to be grouted between bulkheads.

4. The Contractor is to ensure there is no water in the annular space between the carrier pipe and the tunnel liner prior to pumping the cellular grout into the annular space.
5. Operate any dewatering systems until the grouting operations are complete.

**B. EQUIPMENT**

1. Batch and mix grout in equipment of sufficient size and capacity to provide the necessary quality and quantity of grout for each placement stage.
2. Use equipment for grouting of a type and size generally used for the work, capable of mixing grout to a homogeneous consistency, and providing means of accurately measuring grout component quantities and accurately measuring pumping pressures. Use pressure grout equipment, which delivers grout to the injection point at a steady pressure.

**C. PRESSURE GROUTING FOR JACKED OR PULLED PIPE**

1. For jacked pipe 60 inches in diameter or greater, pressure grout the annulus after installation, displacing the bentonite lubrication. Jacked or pulled pipes less than 60 inches in diameter may be left ungrouted unless the excavated diameter exceeds the external pipe diameter by more than one inch.
2. Inject grout through grout holes in the sewer pipe. Drilling holes from the surface or through the carrier pipe walls is not allowed. Perform grouting by injecting it at the pipe invert with bentonite displacement occurring through a high point tap or vent.
3. Control ground water, as necessary, to permit completion of grouting without separating the grout materials.
4. Limit pressures to prevent damage or distortion to the pipe or to keep flexible pipe within acceptable tolerances.
5. Pump grout until material discharging is similar in consistency as the point of injection.

**D. PRESSURE GROUTING FOR SHAFT**

1. If required, perform grouting operations to fill voids outside of the shaft liner.
2. For nonexpendable primary liners installed by hand mining or in shafts, grout once every 4 feet or more frequently if conditions dictate.
3. Control grout pressures so that shaft liner is not overstressed, and ground heave is avoided.
4. For liner requiring grout, perform back grouting once each shift, or more often if required to ensure all voids are filled.

E GROUND STABILIZATION

1. Completely fill voids outside the limits of excavation caused by caving or collapsing ground. Fill with gravity or pressure injected sand-cement grout as necessary to fill the void.
2. Take care in grouting operations to prevent damage to adjacent utilities or public or private property. Grout at a pressure that will not distort or imperil any portion of the work or existing installations or structures.
3. Verify the void has been filled by volumetric comparisons and visual inspection. In the case of settlement under existing slabs, take cores as directed by the Owner's Representative, at no additional cost to the Owner, to demonstrate the void has been filled.

F FIELD QUALITY CONTROL

1. Pressure Grouting for Shaft Liners: For each shaft, make one set of four compressive test specimens for each 30-foot depth and one set for any remaining portion less than a 30-foot increment.
2. Pressure Grouting for Jacked Pipe: Make one set of four compressive test specimens for every 400 feet of jacked pipe pressure grouting.
3. Pressure Grouting for Pulled Pipe. Make one set of four compressive test specimens for every 400 feet of pulled pipe pressure grouting.
4. Ground Stabilization Grouting. Make one set of four compressive test specimens for every location where ground stabilization grouting is performed.

3.9 CONTROL OF LINE AND GRADE

A CONSTRUCTION CONTROL

1. Contractor shall check baselines and control points at the beginning of the Work and report any errors or discrepancies to the Owner's Representative.
2. Use the baselines and control points indicated on the Contract Documents to establish and maintain construction control points, reference lines and grades for locating tunnel, sewer pipe, and structures. These control points are given to assist the Contractor and if deemed necessary the Contractor should establish additional control points or benchmarks in order to perform the work accurately.
3. Establish construction control points sufficiently far from the work so as not to be affected by ground movement caused by pipe-jacked tunneling operations.

B. BENCH MARK MOVEMENT: The Contractor shall ensure if ground surface settlement occurs during construction affecting the accuracy of the temporary benchmarks, the Contractor shall detect and report such movement and reestablish temporary bench marks.

C. LINE AND GRADE

1. Check and record the survey control for the tunnel against an above-ground undisturbed reference at least once for each 250 feet of tunnel constructed.
2. Record the exact position of the MTBM, TBM, PTMT or shield after each shove to ensure the alignment is within specified tolerances. Make immediate correction to alignment before allowable tolerances are exceeded.
3. Then excavation is off line or grade, make alignment corrections to avoid reverse grades in gravity sewers. A belly in the tunnel which will hold water is not acceptable and shall be replaced at no additional cost to the Owner.
  - i. The sewer pipe shall not vary more than plus or minus one inch (1) in elevation or plus or minus six inches (6) horizontally from the established line and grade (as shown on the Contract Documents) at any point between manholes, including the receiving end. The installed pipe shall not hold water.
  - ii. Pipe installed outside tolerances and subsequently abandoned shall first be fully grouted.

3.10 MONITORING

A. Instrumentation Monitoring. Instrumentation specified shall be accessible at all times to the Owner's Representative. Readings shall be submitted promptly to the Owner's Representative.

1. Install and maintain an instrumentation system to monitor and detect movement of the ground surface and adjacent structures. Establish vertical control points at a distance from the construction areas to avoid disturbance due to ground settlement.
2. Should the Owner's Representative require installation independently of the Contractor the Contractor shall provide access for these independent installations.
3. Instruments shall be installed in accordance with the Contract Documents and the manufacturer's recommendations.

4. Monitoring locations given on the Contract Documents are not inclusive and are given to assist the Contractor. Additional locations may need to be established by the Contractor. The Contractor is responsible for all construction induced ground movement and the monitoring thereof.

B. Surface Settlement Monitoring

1. Establish monitoring points on all critical structures.
2. Minimum monitoring points are indicated on the Contract Documents.
3. Record location of settlement monitoring points with respect to construction baselines and elevations. Record elevations to an accuracy of 0.01 feet for each monitoring point location. Monitoring points should be established at locations and by methods that protect them from damage by construction operations, tampering, or other external influences.
4. Ground surface elevations shall be recorded on the centerline ahead of the tunneling operations at a minimum of 100-foot intervals or at least three locations per tunnel drive. For sewers greater than 60-inch diameter, also record similar data at approximately 20 feet each side of the centerline. Settlement monitoring points must be clearly marked by studs or paint for ease of locating.
5. Monitoring points to measure ground elevation are required at a distance of 0 feet, 10 feet and 20 feet from the perimeter of the shaft on each of four radial lines, the radial lines being at 90 degrees to each other.
6. Railroads. Monitor ground settlement of track subbase at centerline of each track.
7. Utilities and Pipelines. Monitor ground settlement directly above and 10 feet before and after the utility or pipeline intersection.

C. Reading Frequency and Reporting: The Contractor shall submit to the Owner's Representative records of readings from the various instruments and survey points.

1. Instrumentation monitoring results to be read at the frequency specified and unless otherwise specified, shall be started prior to the zone of active excavation reaching that point, and shall be continued until the zone of active excavation has passed and until no further detectable movement occurs.

2. Surface settlement monitoring readings shall be taken:
  - i. Prior to the zone of active excavation reaching that point. When the tunnel face reaches the monitoring point (in plan), and
  - ii. When the zone of active excavation has passed and no further movement is detected.
  - iii. All monitoring readings shall be submitted promptly to the Owner's Representative.
  - iv. Immediately report to the Owner's Representative any movement, cracking, or settlement detected.
  - v. Following completion, but prior to final acceptance, make a final survey of all monitoring points.

### 3.11 DISPOSAL OF EXCESS MATERIAL

- A. Remove spoil per Section 02324, Trenching and Trench Backfilling

### 3.12 ACCEPTANCE TESTING

- A. Acceptance testing and inspection is to be carried out by methods described in Section 02650, Testing for Acceptance of Sanitary Sewers

### 3.13 SITE RESTORATION

- B. All surfaces affected by the Work shall be restored to their preconstruction conditions. Performance criteria for restoration work will be similar to those employed in traditional open excavation work as described in the section of these specifications.

### 3.14 POST CONSTRUCTION EVALUATION

- A. The Contractor shall provide a set of Field Record Drawings, including both alignment and profile, to the Owner's Representative. Drawings should be developed from actual field readings. Raw data should be available for submission at any time upon request. As part of the Field Record Drawing, the Contractor shall specify the tracking equipment used, including method of confirmatory procedure used to ensure the data was captured. Field Record Drawings having survey data shall be stamped by a Professional Land Surveyor registered in the State of Georgia.
- B. All fittings, valves, manholes, connections, etc., including all critical structure monitoring points as shown on Contract Documents, shall be located as described in Section, 01056, GPS Data Collection and shall be provided on the Field Record Drawings. No landmarks shall be used. The record drawings shall be stamped by a Professional Land Surveyor registered in the State of Georgia.

**END OF SECTION**

**SECTION 02446 – AUGURING/JACKING AND BORING**

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. The work in this section of the specifications provides for furnishing all labor, equipment, and materials required for the jacking and boring of casing pipe to properly complete construction as described herein, as directed by the Owner and/or as shown on the Contract Drawings. This section also includes provisions for uncased boring/free boring as indicated.
- B. Insurance for Railroad Crossings: The Contractor shall, at its own expense, secure and maintain throughout the construction period the appropriate insurance as required by the owner of the railroad.

1.2 RELATED SECTIONS

Section 02110: Easement (route) Clearing/Tree Cutting  
Section 02205: Dewatering  
Section 02276: Erosion Control Georgia  
Section 02324: Trenching and Trench Backfilling  
Section 02537: Ductile Iron Sanitary Sewer Pipe and Fittings

1.3 REFERENCES

ASTM A36 - Standard Specification for Carbon Structural Steel  
ASTM C150 - Standard Specification for Portland Cement  
ANSI/ASSE A10.16-2009 - Safety Requirements for Tunnels, Shafts, and Caissons  
American Welding Society (AWS)  
American Water Works Association (AWWA)

OSHA 29CFR 1926 - Safety and Health Regulations for Construction

Georgia Department of Transportation (GDOT) Standards Specifications  
Construction of Transportation Systems

SSPC SP-10 - Near-White Metal Blast Cleaning

## 1.4 OVERVIEW

- A. The Contractor shall be held fully responsible for protecting against surface subsidence, damage, or disturbance to adjacent property, facilities, and in no way interfere with, interrupt or endanger road surface from their construction methods. The Contractor shall be responsible for all settlement resulting from boring operations and shall repair and restore damaged property to its original or better condition at no additional cost to the Owner.
- B. If soil investigation reports and data are available for review, the interpretation of those reports and determination of the site soil conditions prior to bidding is the sole responsibility of the Contractor. Any subsurface investigation by the Bidder or Contractor must be approved by the appropriate authority having jurisdiction over the site.
- C. Design boring and receiving pits' excavation support systems to withstand lateral earth pressures, ground loads, unrelieved hydrostatic pressures, bottom heave, equipment loads, applicable traffic and construction loads, and other surcharge loads to allow safe construction of boring and receiving pits without appreciable movement or settlement of ground, and to prevent damage to or movement of adjacent structures, streets, utilities and trees.
- D. Design excavation support systems and casing installation equipment to be compatible with the geologic site conditions.
- E. Any settlement or upheaval of the existing roadway pavements during and up to the date of final acceptance and throughout the warranty period shall be corrected at the Contractor's expense.
- F. All jacking/auguring operations must be performed in compliance with the rules and regulations of the Owner, the State of Georgia Department of Transportation (GDOT), or other authorities having jurisdiction.
- G. Any damage to public or private property due to the work performed by the Contractor is the responsibility of the Contractor. Any damage to Owner utilities caused by the Contractor's equipment or operation shall be repaired in a manner approved by the Owner's Engineer at the Contractor's expense. Any damage caused by the Contractor to utilities or property belonging to other entities shall be repaired by the Contractor to the satisfaction of the utility/property owner at the Contractor's expense. Any equipment stuck or left in the sewer line/lateral shall be retrieved by the Contractor within twenty-four (24) hours at the sole expense of the Contractor. Any damage to the Contractor's equipment is the Contractor's responsibility. If the equipment stuck or left in the sewer line/lateral causes a SSO, then the Contractor is liable for the SSO. The Owner reserves the right to make any repairs or retrieve any equipment and charge the Contractor accordingly.

1.5 WORK INCLUDED

- A. The Contractor shall, under this item, furnish all material, labor, tools, and equipment necessary for and shall install uncased boring, jacked casing, and casing/open cut as may be required.
- B. In general, the Work shall include steel pipe casing, skids, excavation, backfill, restoration of site, sheeting, grout, brick work, earth augers, jacking machine and all labor, tools, material, and accessories to complete the Work as specified, indicated or required.

1.6 QUALIFICATIONS

- A. Boring and jacking casings is deemed to be specialty contractor work. If the Contractor elects to perform the work, the Contractor shall provide evidence of experience to the Owner's Engineer. A minimum of five (5) continuous years of experience in boring and jacking casing construction is required of the casing installer. Evidence of this experience shall be provided with the shop drawings for review by the Owner's Engineer.
- B. The filling of the void between the casing wall and carrier pipe is deemed to be specialty contractor work. If the Contractor elects to perform this work, the Contractor shall provide evidence of at five years of experience and at least 12 similar installations.
- C. The Contractor shall submit evidence to the Owner's Engineer of the manufacturers consistently producing products of satisfactory quality and performance over a period of at least five (5) years.

1.7 SUBMITTALS

- A. The Contractor shall submit for approval by the Owner's Representative and other affected jurisdictions (i.e. GDOT, CSX, NSRR, etc.) all working drawings and schedules of procedure proposed to follow in the prosecution of the Work under this item.
- B. Working drawings shall show in detail the size and location of bore pits together with all sheeting and shoring to be used in supporting embankments, trench walls, and all other structural details together with large scale plan and profile of the proposed jacked installation and affected structures.
- C. Auger Boring Plan which includes at a minimum: the proposed method of handling, design or the jacking head, support and/or back stop, arrangement and position of jacks, pipe guides, complete in assembled position, etc.
- D. A contingency plan allowing the use of a casing lubricant in the event excessive frictional forces jeopardize the successful completion of the casing installation.
- E. Schedules shall set forth the sequence of the various operations together with the time the Contractor proposes to begin and complete the several phases of the Work.

- F. Evidence of qualifications and experience required in Section 1.5 - Qualifications shall be submitted to the Owner's Representative.
- G. Material Submittals: the Contractor shall provide shop drawings and other pertinent specifications and product data as follows:
  - 1. Shop drawings for casing pipe indicating outside diameter, material including the standard to which it was manufactured, and wall thickness and joint configuration connection details.
  - 2. Design mixes for concrete and grout.
  - 3. Details of casing spacers, including manufacturer's recommended spacing.
  - 4. Details of end seals for casing.
  - 5. Signed and Sealed Calculations by an active Georgia Professional Engineer.
- H. For informational purposes the Contractor shall submit a daily written record (diary) in accordance with Section 01320 – Progress Reports, Video's & Photographs.

## 1.8 STORAGE AND PROTECTION

- A. Comply with the requirements of Section 01610 – Delivery, Storage, and Handling.

## 1.9 GENERAL SAFETY

- A. All work shall be performed in accordance with OSHA standards and state and federal safety regulations.
- B. No person shall enter a confined space without the documented requisite training, certification, and entry permit.

## PART 2 - PRODUCTS

### 2.1 CARRIER PIPE

- A. The carrier pipe shall be ductile iron pipe meeting the requirements of Section 02537 – Ductile Iron Sanitary Sewer Pipe and Fittings.

### 2.2 CASING PIPE

- A. The casing shall be new and unused pipe. The casing shall be made from steel plate having minimum yield strength of 35,000 psi. The steel plate shall also meet the chemical requirements of ASTM A36.
- B. The outside of the casing pipe shall be coated with coal tar epoxy having a minimum dry film thickness of sixteen (16) mils. Surface preparation shall be SSPC-SP-10. Epoxy shall have a minimum solids content of sixty-five (65) percent by volume and shall be air or airless spray applied; minimum drying time shall be seven days. Brushing shall be permitted in small areas only. All coating and recoating shall be done in strict accordance with the manufacturer's recommendations. Epoxy shall be Tnemec, Carboline, or Valspar.

- C. The thicknesses of casings shown below are minimum thicknesses. Actual thicknesses shall be determined by the casing installer, based on its evaluation of the required forces to be exerted on the casing when jacking. Any buckling of the casing due to jacking forces shall be repaired at no additional cost to the Owner.
- D. Grout Holes: For casing pipes 36-inch and large in diameter, furnish casing pipe with 2-inch diameter threaded grout holes at centerline and crown for pressure grouting. Spacing of grout holes shall not exceed 5 feet.
- E. The minimum diameters of casings are shown below. Larger casings, with the Owner's Engineer's approval, may be provided at no additional cost to the Owner, for whatever reasons the Contractor may decide, whether casing size availability, line and grade tolerances, soil conditions, etc.
- F. Casing Sizes:
1. If casing is located under a rail road, contractor is to meet the railroad specifications and/or this specification combined using whichever specification is the more stringent.

<b>UNDER RAILROADS (Minimums)</b>			
<b>Pipe Diameter r (inches)</b>	<b>Casing Diameter (inches)</b>	<b>Wall Thickness (inches)</b>	
		<b>Coated</b>	<b>Uncoated</b>
<b>6</b>	<b>14</b>	<b>.25</b>	<b>.28</b>
<b>8</b>	<b>18</b>	<b>.25</b>	<b>.31</b>
<b>10</b>	<b>20</b>	<b>.28</b>	<b>.34</b>
<b>12</b>	<b>22</b>	<b>.31</b>	<b>.37</b>
<b>14</b>	<b>24</b>	<b>.34</b>	<b>.40</b>
<b>16</b>	<b>30</b>	<b>.40</b>	<b>.46</b>
<b>18</b>	<b>30</b>	<b>.40</b>	<b>.46</b>
<b>20</b>	<b>32</b>	<b>.43</b>	<b>.50</b>
<b>24</b>	<b>36</b>	<b>.46</b>	<b>.53</b>
<b>30</b>	<b>42</b>	<b>.50</b>	<b>.56</b>
<b>36</b>	<b>48</b>	<b>.62</b>	<b>.68</b>
<b>42</b>	<b>54</b>	<b>.75</b>	<b>.81</b>

<b>UNDER HIGHWAYS</b>		
<b>Pipe Diameter r</b>	<b>Casing Diameter (inches)</b>	<b>Wall Thickness (inches)</b>
<b>6</b>	<b>14</b>	<b>.28</b>
<b>8</b>	<b>18</b>	<b>.31</b>
<b>10</b>	<b>20</b>	<b>.34</b>
<b>12</b>	<b>22</b>	<b>.37</b>

<b>14</b>	<b>24</b>	<b>.40</b>
<b>16</b>	<b>30</b>	<b>.46</b>
<b>18</b>	<b>30</b>	<b>.46</b>
<b>20</b>	<b>32</b>	<b>.50</b>
<b>24</b>	<b>36</b>	<b>.53</b>
<b>30</b>	<b>42</b>	<b>.56</b>
<b>36</b>	<b>48</b>	<b>.68</b>
<b>42</b>	<b>54</b>	<b>.81</b>

The wall thickness shown above shall be increased to the nearest standard size Where carrier pipe nominal diameter is greater than 42-inches, then minimum casing pipe inside diameter (ID) shall be great enough to provide a minimum 6-inch clearance between the casing pipe and the “bell” outside diameter (OD) of the carrier pipe. Thickness design shall be calculated by a Professional Engineer licensed in the State of Georgia and submitted to the Owner’s Representative for approval.

- G. Casing Spacers: Casing spacers shall meet one of the following requirements:
1. Hardwood skids shall not be used in place of manufactured casing spacers.
  2. Spacer Runners:
    - a. Suitable for supporting the weight of carrier pipe
    - b. Manufactured of material having a low coefficient of friction and designed to support the carrier pipe without damage or excessive wear.
  3. Stainless Steel shell lined PVC casing spacers: shall be flanged, bolt-on style with a two-section, minimum 0.09-inch thick also having a hardness of eighty-five (85) to ninety (90) durometers. Runners shall be attached to stainless steel risers and shall be properly welded to the shell. The height of the runners and risers shall be manufactured so the pipe does not float within the casing. Casing spacers shall be as manufactured by Cascade Waterworks Manufacturing Company or Advanced Products & Systems, Inc.
  4. Fourteen (14) gauge band (minimum) with ten (10) gauge risers (minimum) PVC fused coated casing spacer: shall be a two-section, flanged, bolt-on style, with two (2) inch wide glass reinforced polyester insulating skids, heavy duty PVC inner liner, minimum 0.09-inch thick having a hardness of eighty-five (85) to ninety (90) durometer, and all stainless steel or cadmium plated hardware shall be as manufactured by Pipeline Seal and Insulator, Inc.
- H. Grout: Grout may be used for filling the void between the casing pipe and the carrier pipe. Cement shall conform to the requirements of ASTM C 150, Type I or Type II. Grout shall have a minimum compressive strength of 500 psi attained within twenty-four (24) hours.

- I. End Seals for Casing to be synthetic rubber, conical shape, pull-on or wrap-around style with Type 304 stainless steel bands.
- J. Surface Settlement Markers: Surface settlement markers within pavement areas shall be P.K. nails. Surface settlement markers within non-paved areas shall be wooden hubs.

### 2.3 Equipment

- A. A cutting head shall be attached to a continuous auger mounted inside the casing pipe.
- B. On casing pipe for gravity sewers over sixty (60) feet in length, the installation equipment shall include a steering head and a grade indicator.
- C. The steering head shall be controlled manually from the bore pit. The grade indicator shall consist of a water level attached to the casing which would indicate the elevation of the front end of the casing or some other means for grade indication approved by the Owner Engineer.
- D. The steering head and grade indicator shall utilize a laser guidance system.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Confirm location of all known existing utilities prior to start of auger/receiving pit excavation and pipe installation. The Contractor shall provide the detailed layout required to keep the bore on grade. Notify the Owner's Representative no less than 15 working days before beginning shaft excavation. Before beginning construction of auger/receiving pit, adequately protect existing structures, utilities, trees, shrubs, and other existing facilities. When preparing to install casing pipe, verify casing pipe minimum wall thickness is adequate for anticipated jacking loads.
- B. Comply with applicable ordinances, codes, statutes, rules and regulations of the State of Georgia, applicable County and City building codes, GDOT and the Railroad.
- C. Provide complete groundwater control for excavations at all time
- D. Inspect pit excavations daily to check safety of excavation and structural integrity of support system.
- E. The Contractor shall provide all necessary bracing, bulkheads, shields, fencing, gates, lights, signs, as necessary around shafts and staging areas to ensure complete safety to all traffic, persons, and property at all times during the Work in such a manner as to not permanently damage the roadbed or interfere with normal traffic flow.

- F. The casing pipe shall be constructed to prevent leakage of substances from within the casing throughout its length.
- G. The Contractor shall make arrangements with all governmental and other parties affected by the Work in sufficient time for each to take appropriate action to ensure successful and timely completion of boring and jacking operations. The Contractor shall pay all costs involved.
- H. The Contractor shall accomplish the auger boring operations in accordance with all applicable requirements of owners of roads, railroads, utilities, and private property encountered in the Work.
- I. Face Protection: The face of the excavation shall be protected from the collapse of the soil into the casing.
- J. Casing Design:
  - 1. Design of the bore pit and required bearing to resist jacking forces is the responsibility of the Contractor. The excavation method selected shall be compatible with expected ground conditions. The lengths of the casing shown on the Plans are the minimum lengths required. The length of the casing may be extended for the convenience of the Contractor, at no additional cost of the Owner.
  - 2. Due to restrictive right-of-way and construction easements, casing lengths less than the nominal twenty (20) foot length may be necessary.
- K. Highway Crossings:
  - 1. The Contractor shall be held responsible and accountable for coordinating and scheduling all construction work within the highway right-of-way.
  - 2. Work along or across the MARTA and GDOT right-of-way shall be subject to inspection and approved by MARTA and GDOT.
  - 3. All installations shall be performed to leave free flows in drainage ditches, pipes, culverts, or other surface drainage facilities of the highway, street, or its connections.
  - 4. No excavated material or equipment shall be placed on the pavement or shoulders of the roadway without the express approval of the GDOT and the Owner's Engineer.
  - 5. In no instance will the Contractor be permitted to leave equipment (trucks, backhoes, etc.) on the pavement or shoulder overnight. Construction materials to be installed and placed on the right-of-way in advance of construction shall be placed in such a manner as not to interfere with the safe operation of the roadway.
  - 6. The Contractor shall be responsible for providing the Owner sufficient information to obtain a blasting permit in a timely manner.
- L. MARTA/Railroad Crossings:

1. The Contractor shall secure permission from the railroad owner to schedule work so as not to interfere with the operation of the railroad.
2. Additional insurance and permitting is required for each railroad crossing. The Contractor shall furnish the agency having jurisdiction with such additional insurance and permits as may be needed. Cost of the same shall be borne by the Contractor.
3. All work on the railroad right-of-way, including necessary support of tracks, safety of operations and other standard and incidental operation procedures may be under the supervision of the appropriate authorized representative of the railroad affected and any decisions of this representative pertaining to contraction and/or operations shall be final and construction must be governed by such decisions.
4. If, in the opinion of the agency having jurisdiction, it becomes necessary to provide flagging protection, watchmen, or the performance of any other work in order to keep the tracks safe for traffic, the Contractor shall coordinate such work and shall reimburse the owner for such services, in accordance with accounting procedures agreed on by the Contractor and the affected owner before construction is started.
5. No blasting shall be permitted within the railroad right-of-way.

### 3.2 GROUNDWATER CONTROL

- A. The Contractor shall control groundwater throughout the construction of the casing.
- B. Methods of dewatering shall be at the option and responsibility of the Contractor. The Contractor shall maintain close observation to detect settlement or displacement of surface facilities due to dewatering. Should settlement or displacement be detected, the Contractor shall notify the Owner's Engineer immediately and take such action as necessary to maintain safe conditions and prevent damage.
- C. When water is encountered, the Contractor shall provide and maintain a dewatering system of sufficient capacity to remove water on a twenty-four (24) hour basis keeping excavations free of water until the backfill operation is in progress. Dewatering shall be performed in such a manner that removal of soil particles is held to a minimum. The Contractor shall dewater into a sediment trap and comply with the requirements of Section 02205- Dewatering.

### 3.3 SAFETY

- A. The Contractor shall provide all necessary bracing, bulkheads, and shields to ensure complete safety to all traffic, persons, and property at all times during the Work in such a manner as to not permanently damage the roadbed or interfere with normal traffic over it.

- B. Observe all applicable requirements of DOT and Railroad regulations. Conduct the operations in such a manner so all work will be performed below the level of the roadbed.
- C. If, in the opinion of the Engineer, the Railroad or the DOT, the casing installation work is being conducted in an unsafe manner or in a manner detrimental to the overpassing roadway or to the safety of the traveling public, all operations of boring shall cease until the necessary corrections have been made. In the event that distress occurs to the roadway due to boring, the Contractor shall be required to submit a plan to repair the roadway. The plan must be acceptable to DOT, the Railroad and the Engineer.
- D. The Contractor shall perform all activities in accordance with the Occupational Safety and Health Act of 1970 (PL-596), as amended, applicable regulations of the Federal Government, OSHA 29CFR 1926, and applicable criteria of ANSI A10.16-81, "Safety Requirements for Construction of Tunnel Shafts and Caissons".

### 3.4 SURFACE SETTLEMENT MONITORING

- A. The Contractor shall provide surface settlement markers for casings twenty-four (24) inches in diameter and larger. The Contractor shall place markers as specified in these Specifications and as directed by the Owner's Engineer. The Contractor shall place settlement markers outside of pavement area, along the centerline of the casing at twenty (20) foot intervals and offset ten (10) feet away from the centerline of the casing. Markers shall also be placed at each shoulder of the roadway, at each edge of pavement, at the centerline of the pavement, and at ten (10) and twenty-five (25) feet in each direction from the centerline of the casing. The Contractor shall tie settlement markers to benchmarks and indices sufficiently removed as not to be affected by the casing operations.
- B. The Contractor shall make observations of surface settlement markers, placed as required herein, at regular time intervals acceptable to the Owner's Engineer. In the event settlement or heave on any marker exceeds one (1) inch, the Contractor shall immediately cease work and using a method approved by the Owner's Engineer and the authority having jurisdiction over the site of the Work, take immediate action to restore surface elevations to that existing prior to start of casing operations.
- C. The Contractor shall take readings and permanently record surface elevations prior to start of dewatering operations and/or shaft excavation. The following schedule shall be used for obtaining and recording elevation readings: all settlement markers, once a week; all settlement markers within fifty (50) feet of the casing heading, at the beginning of each day; more frequently at the Owner's Engineer's direction if settlement is identified. The Contractor shall make all elevation measurements to the nearest 0.01 foot.

- D. The Contractor shall cooperate fully with jurisdictional personnel. Any settlement shall be corrected by, and at the expense of, the Contractor.
- E. The Contractor shall promptly report any settlement, and/or horizontal movement, immediately to the Owner's Engineer and take immediate remedial action.

### 3.5 CASING INSTALLATION

#### A. Shaft:

1. The Contractor shall conduct boring and jacking operations from a shaft excavated at one end of the section to be bored. Where conditions and accessibility are suitable, the Contractor shall place the shaft on the downstream end of the bore.
2. The shaft shall be rectangular and excavated to the width and length required for ample working space. If necessary, the Contractor shall sheet and shore shaft properly on all sides. Shaft sheeting shall be timber or steel piling of ample strength to safely withstand all structural loadings of whatever nature due to site and soil conditions. The Contractor shall keep preparations dry during all operations. The Contractor shall perform pumping operations as necessary.
3. The bottom of the shaft shall be firm and unyielding to form an adequate foundation to work from. In the event the shaft bottom is not stable, the Contractor shall excavate to such additional depth as required and place a gravel sub-base or a concrete sub-base if directed by the Owner's Engineer due to soil conditions.

#### B. Jacking Rails and Frame:

1. The Contractor shall set jacking rails to proper line and grade within the shaft. The Contractor shall secure rails in place to prevent settlement or movement during operation. The jacking rails shall cradle and hold the casing pipe on true line and grade during the progress of installing the casing.
2. The Contractor shall place backing between the heels of jacking rails and the rear of the shaft. The backing shall be adequate to withstand all jacking forces and loads.
3. The jacking frame shall be of the adequate design for the magnitude of the job. The Contractor shall apply thrust to the end of the pipe in such a manner to impart a uniformly balanced lead to the pipe barrel without damaging the joint ends of the pipe.

- C. Boring and jacking of casing pipes shall be accomplished by the dry auger boring method without jetting, sluicing, or wet boring.
- D. The Contractor shall auger the hole and jack the casing through the soil simultaneously.
- E. Bored installations shall have a bored-hole diameter essentially the same as the outside diameter of the casing pipe to be installed.

- F. The Contractor shall execute boring ahead of the casing pipe with extreme care, commensurate with the rate of casing pipe penetration. Boring may proceed slightly in advance of the penetrating pipe and shall be made in such a manner so as to prevent any voids in the earth around the outside of the perimeter of the pipe. The Contractor shall make all investigations and determine if the soil conditions are such as to require the use of a shield.
- G. As the casing is installed, the Contractor shall check the horizontal and vertical alignment frequently. The Contractor shall make corrections to continuing operation. For casing pipe installations over one-hundred (100) feet in length, the auger shall be removed and the alignment and grade checked at minimum intervals of sixty (60) feet.
- H. Any casing pipe damaged in jacking operations shall be repaired, if approved by the Owner's Engineer, or removed and replaced at Contractor's own expense.
- I. Lengths of casing pipe, as long as practical, shall be used except as restricted otherwise. Joints between casing pipe sections shall be butt joints with complete joint penetration, single groove welds, for the entire joint circumference, in accordance with the American Welding Society (AWS) recommended procedures. Prior to welding the joints, the Contractor shall ensure both ends of the casing sections being welded are square.
- J. The Contractor shall prepare a contingency plan allowing the use of a casing lubricant, such as bentonite, in the event excessive frictional forces jeopardize the successful completion of the casing installation.
- K. Once the jacking procedure has begun, it should be continued without stopping until completed, subject to weather and conditions beyond the control of the Contractor.
- L. Care shall be taken to ensure casing pipe installed by boring and jacking method will be at the proper alignment and grade.
- M. The Contractor shall maintain and operate pumps and other necessary drainage system equipment to keep work dewatered at all times.
- N. Adequate sheeting, shoring, and bracing for embankments, operating pits, and other appurtenances shall be placed and maintained to ensure that work proceeds safely and expeditiously. Upon completion of the required work, the sheeting, shoring, and bracing shall be left in place, cut off, or removed, as designated by the Owner's Engineer.
- O. Trench excavation, all classes and types of excavation, the removal of rock, muck, debris, the excavation of all working pits and backfill shall be performed in

accordance with the requirements of Section 02324 – Trenching and Trench Backfilling.

- P. All surplus material shall be removed from the right-of-way and the excavation finished flush with the surrounding ground.
- Q. Grout backfill shall be used for unused holes or abandoned pipes.
- R. Any replacement of carrier pipe in an existing casing shall be considered a new installation, subject to the applicable requirements of these Specifications.

### 3.6 VENTILATION AND AIR QUALITY

- A. The Contractor shall provide, operate, and maintain for the duration of casing project a ventilation system to meet safety and OSHA requirements.

### 3.7 ROCK EXCAVATION

- A. In the event rock is encountered during the installation of the casing pipe and, in the opinion of the Owner's Engineer, cannot be removed through the casing, the Owner's Engineer may authorize the Contractor to complete the crossing by a method established in a change order.
- B. At the Contractor's option, the Contractor may continue to install the casing and remove the rock through the casing at no additional cost to the Owner.

### 3.8 INSTALLATION OF CARRIER PIPE

- A. After the steel casing pipe has been installed, the ductile iron carrier pipe shall be installed in the casing pipe utilizing push-on joints. Care shall be exercised at all times to protect the coating and lining of the casing pipe and to maintain tight, full-seated joints in the carrier pipe. The carrier pipe shall be installed at the proper line and grade without any sags or high spots.
- B. Check the alignment and grade of the casing and submit a plan to the Engineer for approval to set the pipe at proper alignment, grade and elevation, without any sags or high spots.
- C. The carrier pipe shall be restrained joint pipe.
- D. The carrier pipe shall be held concentric in the casing pipe by blocks spaced radially around the pipe and secured together so they remain firmly in place. The spacing of such blocks longitudinally in the casing pipe shall not be greater than ten (10) feet.
- E. Fill the void between the carrier pipe and casing pipe with grout under roadways and sand under railroads or as required by railroad company & Federal Railroad

Association (FRA). Measures shall be taken by the Contractor to prevent floatation and other movement of the pipe as the grout or sand is filling the void. At each end of the casing pipe, it is to be plugged by an eight (8) inch thick masonry wall.

- F. The pits or trenches excavated to facilitate jacking or boring operations shall be backfilled immediately after the installation of the carrier pipe has been completed.

### 3.9 UNCASED BORING / FREE BORE

- A. When directed by the Owner, the Contractor shall use an earth auger machine to bore a controlled hole to the line and grade required and as necessary. Said hole shall be of a constant diameter, not exceed four (4) inches larger than the joint diameter of the pipe, and shall be maintained until the pipe is installed through the hole. If the annular space between the earthen hole and the pipe exceeds six (6) inches, then the Contractor shall fill such space either by pressure grouting or pumping in a flowable fill to eliminate possible settlement.

### 3.10 SHEETING REMOVAL

- A. The Contractor shall remove sheeting used for shoring from the shaft and off the site of the Work. The removal of sheeting, shoring, and bracing shall be done in such a manner as not to endanger or damage either new or existing structures, private or public properties, and also to avoid cave-ins or sliding in the banks.

### 3.11 INTERSTATE RESTORATION

- A. When boring and jacking operations encroach upon the rights-of-way of the Federal interstate system, the Contractor shall restore all screening trees with seedlings of like species and all applicable sections found in Section 02276 – Site Restoration and Erosion Control.

### 3.12 CLEANUP

- A. The Contractor shall remove and dispose of all debris and leave the site of the Work in a neat and orderly condition acceptable to the Owner's Engineer. The debris is to be disposed of properly in accordance with all laws. The Owner can furnish a letter to the landfill stating the contractor is authorized to dispose of non-hazardous materials. Debris and liquids quantities are to be tracked in the daily contractor diary.

### 3.13 WARRANTY

- A. The Contractor shall guarantee his work for a warranty period of one (1) year from the date of final acceptance.
- B. Within the warranty period, the Owner may inspect the work, and if repairs are needed, the repairs shall be made on a case by case basis at no cost to the Owner. For the localized repairs, the warranty period shall be one additional year.

**END OF SECTION**

**Exhibit 3**  
Drawings



RA2T  
RIVER TO TAP  
THE STATE OF GEORGIA  
OFFICE OF WATER RESOURCES  
UNIVERSITY MICROFILMS  
SERIALS ACQUISITION  
300 N ZEEB RD  
ANN ARBOR MI 48106-1500  
TEL: 734 769 0700  
WWW.UMI.COM

DEKALB COUNTY  
DEPARTMENT OF  
WATERSHED  
MANAGEMENT  
OKLAHOMA COUNTY GEORGIA

PROJECT  
YELLOW RIVER FORCE  
MAIN REPLACEMENT 2016  
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NO.	DATE	DESCRIPTION
1	11/15/16	ISSUED FOR PERMIT
2	12/15/16	ISSUED FOR PERMIT
3	01/15/17	ISSUED FOR PERMIT
4	02/15/17	ISSUED FOR PERMIT
5	03/15/17	ISSUED FOR PERMIT
6	04/15/17	ISSUED FOR PERMIT
7	05/15/17	ISSUED FOR PERMIT
8	06/15/17	ISSUED FOR PERMIT
9	07/15/17	ISSUED FOR PERMIT
10	08/15/17	ISSUED FOR PERMIT
11	09/15/17	ISSUED FOR PERMIT
12	10/15/17	ISSUED FOR PERMIT
13	11/15/17	ISSUED FOR PERMIT
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18	04/15/18	ISSUED FOR PERMIT
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22	08/15/18	ISSUED FOR PERMIT
23	09/15/18	ISSUED FOR PERMIT
24	10/15/18	ISSUED FOR PERMIT
25	11/15/18	ISSUED FOR PERMIT
26	12/15/18	ISSUED FOR PERMIT
27	01/15/19	ISSUED FOR PERMIT
28	02/15/19	ISSUED FOR PERMIT
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COVER  
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DATE: 11/15/16  
PROJECT: YELLOW RIVER FORCE MAIN REPLACEMENT 2016  
DRAWN BY: [Name]  
CHECKED BY: [Name]  
DATE: 11/15/16  
SCALE: AS SHOWN  
SHEET NO.: 1616  
TOTAL SHEETS: 1616  
PROJECT NO.: [Number]

G-0

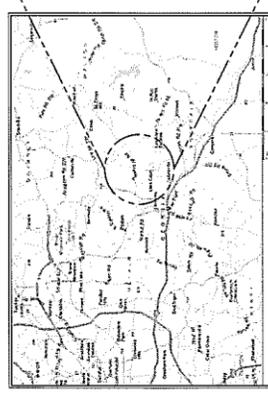
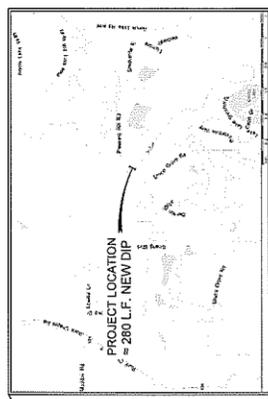
# ENGINEERING PLANS & SPECIFICATIONS FOR DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT YELLOW RIVER FORCE MAIN REPLACEMENT 2016

PROJECT SITE IS LOCATED IN LAND LOT 219 OF THE  
16TH DISTRICT IN LITHONIA, GEORGIA.

INITIAL ISSUE

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  - G-1 EXISTING AND PROPOSED UTILITY LOCATIONS
  - G-2 TECHNICAL SPECIFICATIONS
  - G-3 GENERAL NOTES
  - G-4 GENERAL NOTES & AS BUILT SHEET
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- EROSION CONTROL**
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## VICINITY MAP

## LOCATION MAP

## PROJECT SUMMARY

**EXISTING SITE CONDITIONS:**  
AN EXISTING 16" DIAMETER FORCE MAIN CONDUIT FLOWS FROM THE HANNWAY HILL STATION TO THE LOWER CHICKEN CREEK LIFT STATION. THE EXISTING ALUMINUM ROUTES THROUGH A 15' WIDE GEORGIA POWER TRENCH BEFORE CROSSING YELLOW RIVER FOR PEACHTREE HILL ROAD.

**PROPOSED SITE CONDITIONS:**  
THE PROJECT AREA IS IN THE LITHONIA WETLANDS UNDER THE EASTERN SIDE OF THE POWERLINE EASEMENT.

**PROPOSED WORK:**  
THE PROJECT SITE IS COMBINED WITH AN EXISTING UTILITY EASEMENT LOCATED WITHIN GEORGIA POWER RIGHT-OF-WAY. THE ALIGNMENT IS BOUNDED BY PEACHTREE HILL ROAD TO THE NORTHEAST AND LINDEN GROVE ROAD TO THE SOUTHWEST.

**PROPOSED WORK INCLUDES:**  
THE PROPOSED WORK INCLUDES THE INSTALLATION OF A 48" DIAMETER FORCE MAIN ENCASED WITHIN A STEEL CASING PIPE. THE CASING PIPE WILL BE JACKED UNDER EXISTING YELLOW RIVER AND THE EXISTING 16" DIAMETER CONDUIT WILL BE ABANDONED IN PLACE WITH FLOWN-FILL.

**ADDITIONAL WORK:**  
THE PROPOSED WORK WILL BE CONSTRUCTED IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES WILL BE CONSTRUCTED AND MAINTAINED AS A SINGLE TRANCE PLAN.

IF YOU HAVE ANY QUESTIONS...  
CALL US TODAY!  
OUR OFFICE IS OPEN MONDAY THROUGH FRIDAY  
8:00 AM - 5:00 PM  
OUR PHONE NUMBER IS (770) 232-7411  
OUR FAX NUMBER IS (770) 232-7410  
OUR WEBSITE IS WWW.R2TINC.COM  
IF YOU'VE GOT IT, WE'VE GOT IT!



**CHIEF EXECUTIVE OFFICER:**  
LEE MAY (INTERIM)

**BOARD OF COMMISSIONERS:**  
MAYOR: JEFF HADEN - DISTRICT 1  
LARRY JOHNSON - DISTRICT 2  
MARGARET HARRIS - DISTRICT 3  
MEREDITH JOHNSON - DISTRICT 4  
MARGARET HARRIS - DISTRICT 5  
MARGARET HARRIS - DISTRICT 6  
STAN WATSON - DISTRICT 7

**CONTACT:**  
DeKalb County Watershed Department  
Dan Cummings  
Phone: (770) 232-7411  
Fax: (770) 232-7410









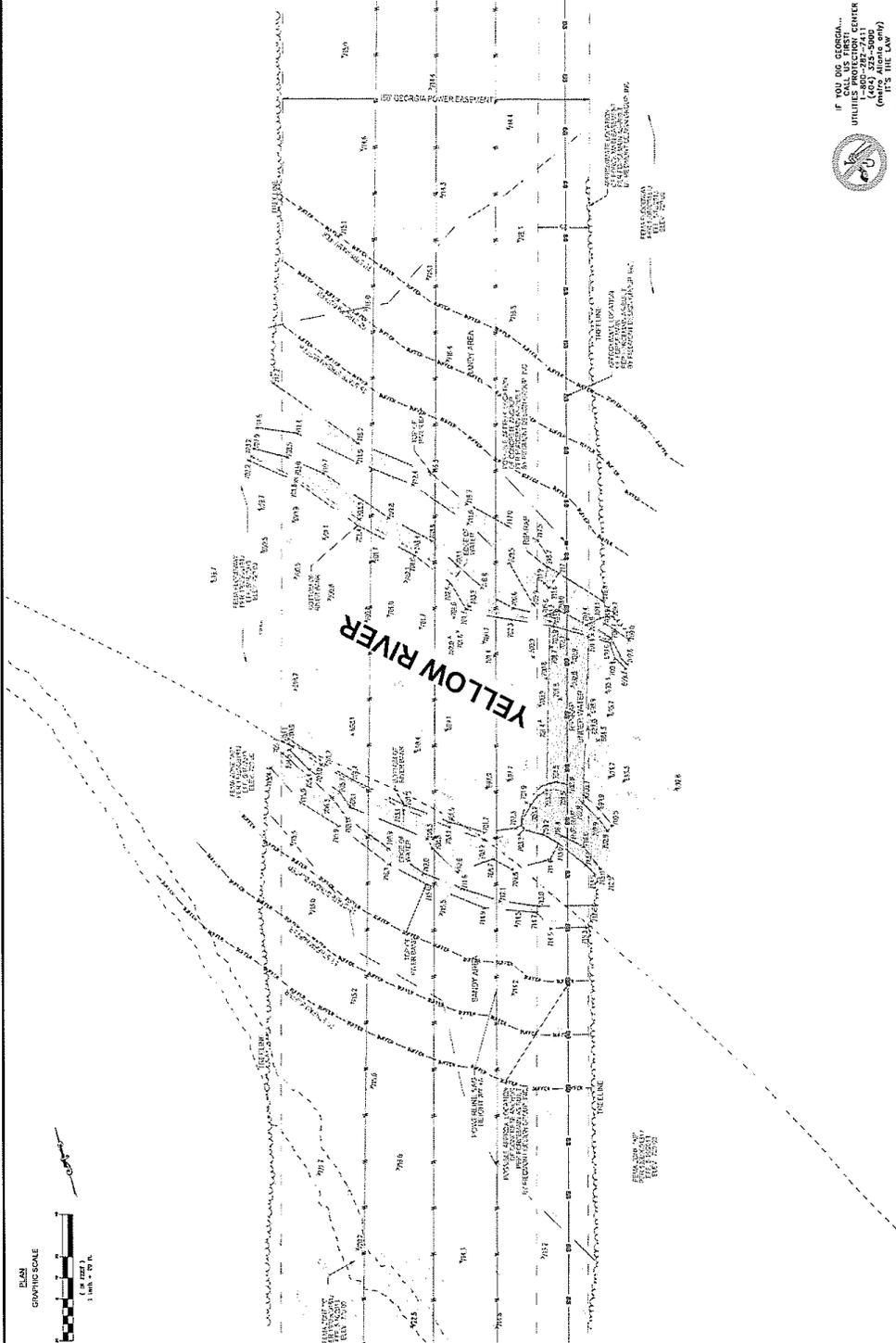


**REPORT TO:**  
**DEPT. OF WATER RESOURCES**  
**ATLANTA, GA 30334**  
**WWW.DWR.GE.GOV**

**DEKALB COUNTY**  
**DEPARTMENT OF**  
**WATERSHED**  
**MANAGEMENT**  
**DEKALB COUNTY GEORGIA**

**PROJECT**  
**YELLOW RIVER FORCE**  
**MAIN REPLACEMENT 2016**

DATE	BY	REVISION	DESCRIPTION



  
 IF YOU USE GROUNDWATER...  
 CALL US FIRST!  
**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
 REGION 4  
 (404) 232-3000  
 (800) 424-9399  
 IT'S THE LAW

**C-1**

**EXISTING CONDITIONS**





**R2T**  
INVERTED TMD  
1111 PINEBROOK  
AVENUE, SUITE 200  
MARIETTA, GA 30067  
PHONE: (770) 575-7272  
WWW.R2TINC.COM

**DEKALB COUNTY  
DEPARTMENT OF  
WATERSHED  
MANAGEMENT**

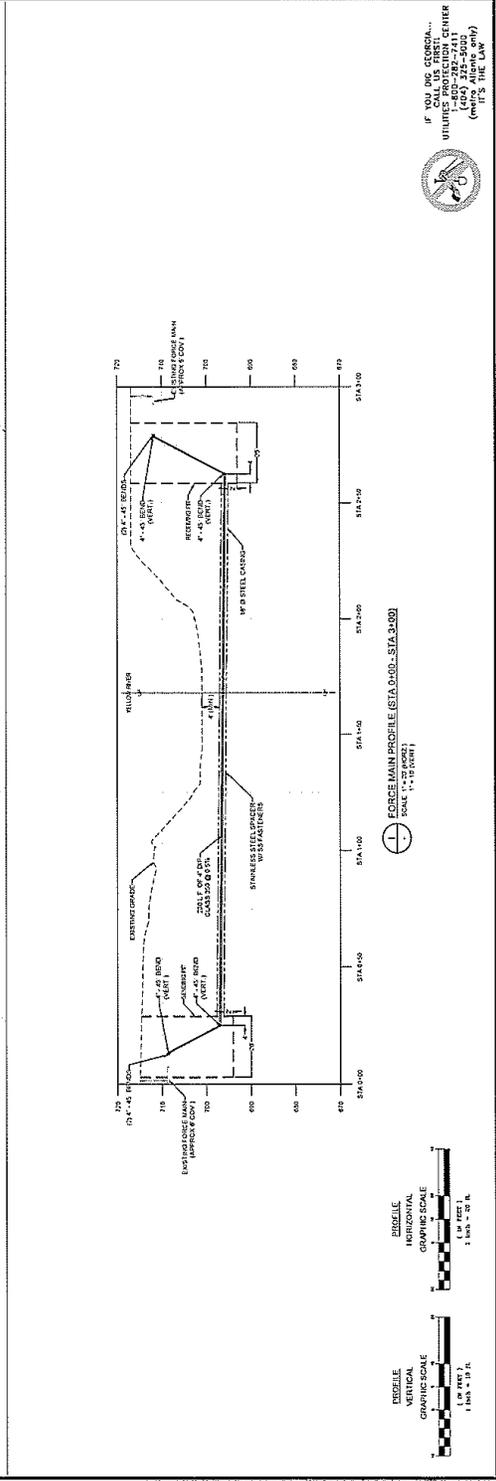
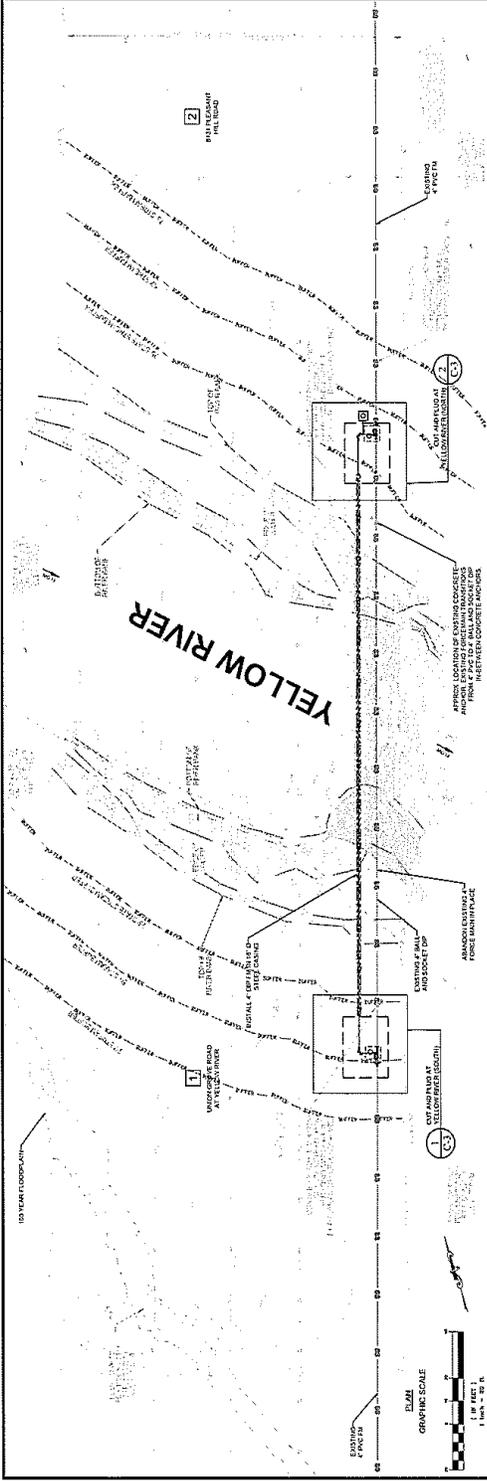
DEKALB COUNTY GEORGIA

**YELLOW RIVER FORCE  
MAIN REPLACEMENT 2016**

PROJECT

**C-2**

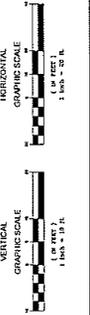
DATE: 11/18/15  
DRAWN: J. L. BROWN  
CHECKED: J. L. BROWN  
SCALE: AS SHOWN  
SHEET TITLE: PLAN AND PROFILE



IF YOU ARE GEORGIA...  
CALL US FIRST!  
UTILITY - 800-282-7411  
EMERGENCY - 800-282-7411  
(MARIETTA, ALPHARETTA, AND)  
IT'S THE LAW



**FORCE MAIN PROFILE (STA 0+00 - STA 3+00)**  
SCALE: 1" = 10' VERT.  
1" = 10' HORIZ.















DEKALB COUNTY DEPARTMENT OF WATER RESOURCES MAIN REPLACEMENT 2016

DEKALB COUNTY DEPARTMENT OF WATER RESOURCES MAIN REPLACEMENT 2016

Table with 2 columns: DATE, TIME, and LOCATION. Includes project information like 'PROJECT: MAIN REPLACEMENT 2016'.

Table with 2 columns: DATE, TIME, and LOCATION. Includes project information like 'PROJECT: MAIN REPLACEMENT 2016'.

ESRPP NARRATIVE PLAN SHEET NO. 1 OF 10

William T. Roberts, Licensed Professional Engineer, GSWCC, DEKALB COUNTY DEPARTMENT OF WATER RESOURCES.

24 HOUR CONTACT (770) 270-8243

GENERAL EROSION CONTROL PRACTICES. A REPORT OF EACH INSPECTION THAT INCLUDES THE NUMBER OF INSPECTIONS, THE DATE, THE TIME, THE LOCATION, THE EROSION CONTROL PRACTICES THAT ARE IN PLACE, THE EROSION CONTROL PRACTICES THAT ARE NOT IN PLACE, AND THE EROSION CONTROL PRACTICES THAT ARE IN THE PROCESS OF BEING INSTALLED.

Table with 2 columns: CODE, PRACTICE, and DETAIL. Lists various erosion control practices like 'SLOPE PROTECTION', 'SLOPE STABILIZATION', etc.

Table with 2 columns: PRACTICE, DATE, and TIME. Lists the schedule of each activity for the project.

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THE FINEST  
ATTITUDE AND  
WISDOM  
WWW.R2T.COM

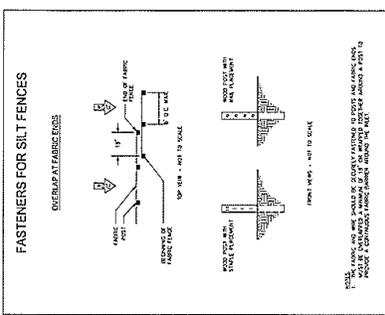
DEKALB COUNTY  
DEPARTMENT OF  
WATER RESOURCES  
MANAGEMENT  
DEKALB COUNTY, GEORGIA

YELLOW RIVER FORCE  
MAIN REPLACEMENT 2016

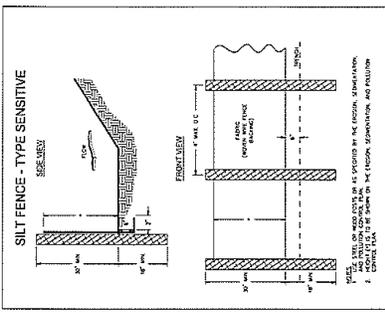


PROJECT: YELLOW RIVER FORCE MAIN REPLACEMENT 2016  
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CHECKED BY: WTR  
SCALE: AS SHOWN  
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EXPIRES: 01/13/2017  
CONTROL DETAILS

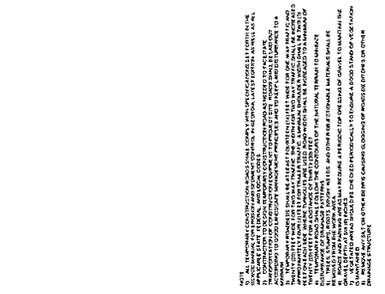
C-14



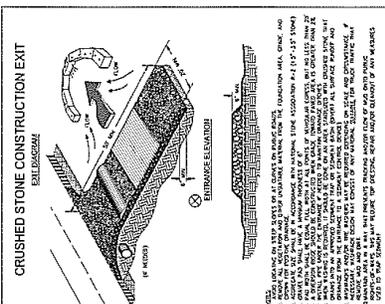
4 FASTENERS FOR SILT FENCES



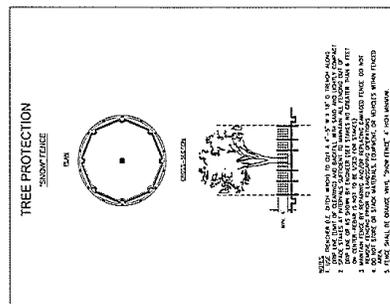
3 SILT FENCE - TYPE SENSITIVE (SENSITIVE) SECTION



2 CONSTRUCTION EXIT - STABILIZATION



1 CONSTRUCTION EXIT - CRUSHED STONE



5 TREE PROTECTION (SENSITIVE) SECTION

**GSWCC**  
GEORGIA STATE WATER CONTROL COMMISSION

William T. Roberts  
Level II Certified Design Professional  
Certification Number: 000007027Z  
Issued: 01/13/2014 Expires: 01/13/2017

**24 HOUR CONTACT**  
(770) 270-6243