FULTON COUNTY

Vision

People *Families* *Neighborhoods*

Mission

To serve, protect and govern in concert with local municipalities

Values

People *Customer Services*
Ethics *Resource Management*
Innovation *Equal Opportunity*

PURCHASING DEPARTMENT
REQUEST FOR INVITATION TO BID NO. 07ITB56429K-RS

W032 FREEMANVILLE ROAD WATER MAIN

For

DEPARTMENT OF PUBLIC WORKS

BID DUE TIME AND DATE: 11:00 A.M. JULY 9, 2007
BID ISSUANCE DATE: MAY 29, 2007
PURCHASING CONTACT: RHOLANDA STANBERRY (404)730-4200
E-MAIL: rholanda.stanberry@fultoncountyga.gov

LOCATION: FULTON COUNTY PURCHASING DEPARTMENT
130 PEACHTREE STREET, S.W., SUITE 1168
ATLANTA, GA 30303

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INVITATION TO BID

W032 FREEMANVILLE ROAD WATER MAIN

Sealed Bids for furnishing all materials, labor, tools, equipment and appurtenances necessary for the construction of FREEMANVILLE ROAD WATER MAIN will be received by the Fulton County Department of Purchasing and Contract Compliance at 130 Peachtree Street, S.W. Suite 1168 Atlanta, GA 30303, until 11:00a.m., local time, on Monday, July 9, 2007, and then at said office publicly opened and read aloud.

Description of Project:

The Project consists of obtaining all permits, furnishing all materials and equipment, and performing all labor necessary for the construction of approximately 28,000 linear feet (LF) of 24-inch diameter ductile iron pipe water main. The project is located along Providence and Freemanville Roads, in North Fulton County.

Bid Documents:

The Instructions to Bidders, Bid and Contract Requirements (Bid Form, Bid Bond, Performance Bond, Payment Bond, Contract Agreement), and other Documents (Drawings and/or Specifications) may be examined at the following locations:

McGraw Hill Construction Dodge
555 Walnut Street
Macon, Georgia 31201

Fulton County
Public Works Department
141 Pryor ST, S.W., Ste 6001
Atlanta, Georgia 30303

AGC Builders Exchange
1940 The Exchange
STE 300
Atlanta, Georgia 30339

Reed Construction Data
30 Technology Blvd
STE 100
Norcross Georgia 30092

FW Dodge Corporation
2129 Northwest Parkway
STE 105
Marietta, Georgia 30067

Minority Business Development Agency
401 West Peachtree St
Summit Bldg STE 1715
Atlanta Georgia 30308

This document and supporting documents can be downloaded at the Fulton County Website, http://www.fultoncountyga.gov under “Bid Opportunities”.

Applications for documents, along with a non-refundable $50.00 payment must be made to Department of Public Works, 141 Pryor Street, S.W., Suite 6001, Atlanta, Georgia 30303. Payment must be in the form of a company or personal check payable to **Fulton Construction Management Partners**. Checks returned for any reason will result in the bid being deemed non-responsive. This amount includes all fees for printing and distribution and will be used to defray a portion of the printing cost that may have been incurred for the tendering of the Project. Partial sets of the bid document will not be issued.

For payment information, contact Pamela Cody, FCMP, Department of Public Works at 404-612-0880. All other questions should be addressed by the procedures outlined in this ITB to Rholanda Stanberry, Fulton County Department of Purchasing and Contract Compliance at 404-730-4200, rholanda.stanberry@fultoncountyga.gov.

Term of Contract:

The Bidder agrees hereby to commence work under this Contract, with adequate personnel and equipment, on a date to be specified in a written order of the Contracting Officer and to fully complete all work under this Contract within **300** consecutive calendar days from and including said date.

The County will make payments, within **45** days, in response to the Contractor's monthly Applications for Payment, which are accompanied by the Engineer's Certificate for Payment, for work performed to date plus cost of stored materials, less retainage. Payments, Applications for Payment, Certificates for Payment, and retainage shall be in accordance with the provisions of the Contract Documents.

No Contact Provision

It is the policy of Fulton County that the evaluation and award process for County contracts shall be free from both actual and perceived impropriety, and that contacts between potential vendors and County officials, elected officials and staff regarding pending awards of County contracts shall be prohibited.

A. No person, firm, or business entity, however situated or composed, obtaining a copy of or responding to this solicitation, shall initiate or continue any verbal or written communication regarding this solicitation with any County officer, elected official, employee, or designated County representative, between the date of the issuance of this solicitation and the date of the County Manager's recommendation to the Board of Commissioners for award of the subject contract, except as may otherwise be specifically authorized and permitted by the terms and conditions of this solicitation.

B. All verbal and written communications initiated by such person, firm, or entity regarding this solicitation, if same are authorized and permitted by the terms and conditions of this solicitation, shall be directed to the Purchasing Agent.

C. Any violation of this prohibition of the initiation or continuation of verbal or written communications with County officers, elected officials, employees, or designated County representatives shall result in a written finding by the Purchasing Agent that the submitted Bid or proposal of the person, firm, or entity in violation is "non-responsive", and same shall not be considered for award.

Bid Contact

Information regarding the bid or bid requirements, either procedural or technical, may be obtained by submitting questions in writing to:

Fulton County Department of Purchasing and Contract Compliance
Attn: Rholanda Stanberry, Assistant Purchasing Agent
Fulton County Public Safety Building
130 Peachtree Street, S.W. Suite 1168
Atlanta, GA 30303
Phone: (404) 730-4200
Fax: (404) 893-1744
Reference Bid # 07ITB56429K-RS

Or rholanda.stanberry@fultoncountyga.gov

Basis of Award

The Contract, if awarded, will be awarded to the lowest responsive and responsible bidder. No bid may be withdrawn for a period of sixty (60) days after the date of bid opening except as permitted by O.C.G.A., §36-91-41 et seq., as amended. Each Bid must be accompanied by a Bid Bond in accordance with the Bid Bond Requirements provided in the Contract Documents, on a Surety Company's Standard Bid Bond Form acceptable to the County in an amount no less than 5% of the amount bid. The successful bidder will be required to furnish a Performance Bond and Payment Bond, **on or before** the issuance of Notice to Proceed, each in the amount of 100% of the Contract Amount. All other required Contract Documents must be fully completed and executed by the Contractor and his/her Surety, and submitted to the Owner **on or before** the issuance of the Notice to Proceed.

Pre-Bid Conference

Date: June 25, 2007
Time: 9:30 AM
Location: Fulton County Department of Purchasing and Contract Compliance,
Public Safety Building
130 Peachtree Street, S.W. Suite 1168
Atlanta, GA 30303

An optional pre-bid conference will be held in the Fulton County Department of Purchasing and Contract Compliance Conference Room, located at 130 Peachtree Street, S.W. Suite 1168, Atlanta, Georgia 30303. ***Inquiries regarding the solicitation either technical or otherwise may be submitted in writing prior to the pre-bid conference and will be addressed at the pre-bid conference.*** Any additional questions asked at the pre-bid conference must be submitted in written form at the pre-bid conference and will be responded to in the form of an addendum with the County's official responses.

The Pre-bid conference will be conducted for the purpose of explaining the County's bid process, the specifications/technical documents, and to provide non-binding verbal responses to questions concerning these bid specifications and to discuss issues from the bidders perspective. However, no verbal response provided at the pre-bid conference binds the County. Only those responses to written questions that are responded to by the County in written communications will be official.

END OF SECTION

INSTRUCTIONS TO BIDDERS

A. Contract Documents

The Contract Documents include the Contract Agreement, Contractor's Bid (including all documentation accompanying the Bid and any post-Bid documentation required by the County prior to the Notice of Award), Bonds, all Special Conditions, General Conditions, Supplementary Conditions, Specifications, Drawings and addenda, together with written amendments, change orders, field orders and the Construction Manager's written interpretations and clarifications issued in accordance with the General Conditions on or after the date of the Contract Agreement.

Shop drawing submittals reviewed in accordance with the General Conditions, geotechnical investigations and soils report and drawings of physical conditions in or relating to existing surface structures at or contiguous to the site are not Contract Documents.

The Contract Documents shall define and describe the complete work to which they relate.

B. Bid Preparation and Execution

All Bids must be made on the Bid forms contained herein. The original signed Bid with three (3) copies shall be submitted in a sealed envelope, addressed to the Department of Purchasing and Contract Compliance, Fulton County Public Safety Building, 130 Peachtree Street, S.W., Suite 1168 Atlanta, Georgia 30303, and labeled "Bid for **07ITB56429K-RS FREEMANVILLE ROAD WATER MAIN.**

Additionally, ***THE BIDDER IS ALSO REQUIRED TO WRITE THEIR GEORGIA UTILITY CONTRACTOR LICENSE NUMBER ON THE OUTSIDE OF THE SEALED BID ENVELOPE.***

REQUIRED SUBMITTALS: The bidder **must complete and execute** the following:

1. Bid Form
2. Acknowledgement of each Addendum
3. Bid Bond
4. Purchasing Forms (See Submittal Check List at end of this Section), fully executed
5. Contract Compliance Forms (See Submittal Check List at end of this Section), fully executed
6. Risk Management Insurance Provisions Form

Any bids received after the stated time and date will not be considered. It shall be the sole responsibility of the bidder to have his/her bid delivered to the Fulton County Department of Purchasing and Contract Compliance for receipt on or before the stated time and date (see Section 00020). If a bid is sent by U.S. Mail, the bidder shall be responsible for its timely delivery to the Purchasing Department. Bids delayed by mail will not be considered, shall not be opened, and arrangements shall be made for their return at the bidder's request and expense.

Bid shall be publicly opened, with only the names and total bid price of the bidders disclosed at the opening.

C. Addenda and Interpretations

No interpretations of the meaning of the Drawings, Specifications or other pre-bid documents will be made to any Bidder orally.

Bidders requiring clarification or interpretation of the Contract Documents shall make a request in writing, either by mail, hand delivery, e-mail or fax, to the Purchasing Agent at the address below. To be given consideration, requests must be received no later than 2:00 PM, July 2, 2007. The County will not respond to any requests, oral or written, received after this date. Telephone inquiries will not be accepted.

Fulton County Department of Purchasing and Contract Compliance
Attn: Rholanda Stanberry, Assistant Purchasing Agent
Fulton County Public Safety Building
130 Peachtree Street, S.W., 1168
Atlanta, GA 30303
Fax: (404) 893-1744
rholanda.stanberry@fultoncountyga.gov
Reference Bid # 07ITB56429K-RS

Only communications from firms that are in writing and signed will be recognized by the County as duly authorized expressions on behalf of proposers/bidders. Any and all such interpretations and any supplemental instructions will be in the form of written Addenda to the Contract Documents which, if issued, will be mailed, shipped or faxed to all prospective Bidders (at the respective addresses furnished) prior to the date fixed for the opening of Bids.

Failure of Bidders to receive or acknowledge any Addendum shall not relieve them of any obligation under the Bid. All Addenda shall become part of the Contract Documents.

D. **Site Examination**

There will not be a scheduled site visit for this project. However, bidders are encouraged to visit the project site on their own.

E. **Bidder's Modification and Withdrawal of Bids**

A Bidder may modify or withdraw its bid by written request, provided that the request is received by the County prior to the bid due date and time at the address to which bids are to be submitted. Provided further, that in case of an electronic request (i.e. facsimile, e-mail, etc.) a written confirmation thereof over the authorized signature of the Bidder must be received by the County at the address to which original Bids are to be submitted within three (3) calendar days after issue of the electronic message. Following withdrawal of its bid, the Bidder may submit a new bid, providing delivery is affected prior to the established bid opening date and time. **No bid may be withdrawn after bid due date for sixty (60) calendar days.**

F. **Bid and Contract Security**

A Bid Bond for an amount equal to five percent (5%) of the bid amount must accompany each Proposal. The bid bond shall be submitted in a separate, sealed envelope marked "Bid Bond".

Bids must be accompanied by a bid bond or certified check in an amount of five percent (5%) of the TOTAL AMOUNT of the base bid. The bid bond or certified check shall apply ONLY TO THIS BID. The bid name and contract number must appear on the security instrument. The bond must remain in full force and effect until the Bidder executes the final Contract. Bids not satisfying the bonding requirements of this project will be declared non-responsive.

Any bid bond, performance bond, payment bond, or security deposit required for public works construction contract shall be approved and filed with purchasing agent. At the

option of the County, if the surety named in the bond is other than a surety company authorized by law to do business in this state pursuant to a current certificate of authority to transact surety business by the Commissioner of Insurance, such bond shall not be approved and filed unless such surety is on the United States Department of Treasury's list of approved bond sureties.

A Purchasing Agent shall approve as to form and as to the solvency of the surety any bid bond, performance bond, or payment bond required by this. In the case of a bid bond, such approval shall be obtained prior to acceptance of the bid or proposal. In the case of payment bonds and performance bonds, such approval shall be obtained prior to the execution of the contract.

Whenever, in the judgment of the County:
(1) Any surety on a bid, performance, or payment bond has become insolvent;
(2) Any corporation surety is not longer certified or approved by the Commissioner of Insurance to do business in the state; or
(3) For any cause there are no longer proper or sufficient sureties on any or all the bonds

The County may require the contractor to strengthen any or all of the bonds or to furnish a new or additional bond or bonds within ten days. Thereupon, if so ordered by the County, all work on the contract shall cease unless such new or additional bond or bonds are furnished. If such bond or bonds are not furnished within such time, the County may terminate the contract and complete the same as the agent of and at the expense of the contractor and his or her sureties.

As a condition of responsiveness the bidder must contain a Bid Bond for an amount equal to 5% of the bid amount. The Bid Bond shall be included in a separate envelope marked on the outside "Bid Bond". Checks or letters of credit of any type will not be accepted. A certified cashier's check will be acceptable. Provide a completed and fully executed Bid Bond. When the bidder's package is opened, a purchasing agent will verify the presence of the Bid Bond and remove it from the Proposal Package.

If the bidder withdraws its bid from the competition after the selection of its bid for a reason not authorized by Georgia law, the County will proceed on the Bid Bond, along with any other available remedies.

The Surety of the Bid Bond shall be from a surety company authorized to do business in the State of Georgia, shall be listed in the Department of Treasury Circular 570, and shall have an underwriting limitation in excess of 100% of the bid amount. The Bonds and Surety shall be subject to approval by the County Attorney.

Attorneys-in-fact for bidders who sign bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

G. **Right to Reject Bids**

The County reserves the right to reject any or all bids and to waive informalities. No bids will be received after the time set for opening bids. Any unauthorized conditions, limitations or provisions attached to the Bid, except as provided herein, will render it informal and may cause its rejection. Unbalanced bids will be subject to rejection. Any bidder may withdraw his/her bid, either personally or by telegraphic or written request, at any time prior to the scheduled closing time for receipt of bids. Telegraphic or written requests for withdrawal must be in the possession of the County prior to the closing time for receipt of bids.

H. **Applicable Laws**

All applicable laws and regulations of the State of Georgia and ordinances and regulations of Fulton County shall apply. Protestors shall seek resolution of their complaints in the manner provided in the Fulton County Code of Laws §2-324, which is incorporated by reference herein.

I. **Examination of Contract Documents**

Prospective bidders shall examine the contract documents and before submitting a bid, shall make a written request to the County for an interpretation or correction of any ambiguity, in consistency or error therein which could be discovered by a bidder. At the bid opening each bidder shall be presumed to have read and be familiar with the contract documents.

J. **Termination**

The County may terminate the contract resulting from this solicitation at any time the vendor fails to carry out the contract provisions, if in the opinion of the County, the performance of the contract is unreasonably delayed, or the vendor is in direct violation of the contract conditions. The County shall provide the vendor with notice of any conditions which violate or endanger the performance of the contract and, if after such notice the contractor fails to remedy such conditions within thirty (30) days, to the satisfaction of the County, the County may exercise their option in writing to terminate the Contract without further notice to the Contractor and order the Contractor to stop work immediately and vacate the premises. Vendor agrees by its bid submission that the County's decision is final and valid.

K. **Indemnification and Hold Harmless Agreement**

See Section 00490, Insurance and Risk Management Provisions, Indemnification and Hold Harmless Agreement.

L. **Bid Opening**

Bids will be opened in public and read aloud. All bidders are requested to be present at the opening.

M. **Determination of Successful Bidder**

Fulton County desires to complete this work in a timely manner. The Contract will be awarded to the lowest responsive, responsible bidder(s), if awarded.

1. **Responsibility:** The determination of the bidder's responsibility will be made by the County based on whether the bidder meets the following minimum requirements:

    a. The County reserves the right to reject any bid if the evidence submitted by, or investigation of, the bidder fails to satisfy the County that he/she is properly qualified to carry out the obligations of the Contract.
    b. Is properly licensed to perform this type of work in Fulton County. Bidders must have a utility contractors license to perform this work. O.C.G.A. §43-14-8.3 (h)
    c. Maintains a permanent place of business individually or in conjunction with the prime contractor.
    d. Has the appropriate and adequate technical experience. Designated Project Manager must be proficient in all aspects of contracted work.
    e. Has adequate personnel and equipment to do the work expeditiously.
    f. Has suitable financial means to meet obligations incidental to the work.

2. **Responsiveness:** The determination of responsiveness will be made by the County based on a consideration of whether the bidder has submitted a complete Bid form without irregularities, excisions, special conditions, or alternative bids for any item unless specifically requested in the Bid form.

N. **Wage Clause**

Pursuant to 102-391, Each Contractor shall agree that in the performance of the Contract he will comply with all lawful agreements, if any, which the Contractor had made with any association, union, or other entity, with respect to wages, salaries, and working conditions, so as not to cause inconvenience, picketing, or work stoppage.

O. **Notice of Award of Contract**

As soon as possible, and within sixty (60) days after receipt of bids, the County shall notify the successful Bidder of the Award of Contract.

The award shall be made by the Board of Commissioners of Fulton County to the lowest responsive, responsible bidder(s) as soon as possible after receipt of bids, taking into consideration price and the responsiveness to the requirements set forth in the Invitation for Bid. In such case, no claim shall be made by the selected Contractor(s) for loss of profit if the contract is not awarded or awarded for less work than is indicated and for less than the amount of his bid. The total of the awarded contract shall not exceed the available funds allocated for this project.

Should the County require additional time to award the contract, the time may be extended by mutual agreement between the County and the successful bidder. If an Award of Contract has not been made within sixty (60) days from the bid date or within the extension mutually agreed upon, the Bidder may withdraw the Bid without further liability on the part of either party.

Any award made by the Board of Commissioners as a result of this bid will begin from the date of the notice to proceed. The Bidder agrees hereby to commence work under this Contract, with adequate personnel and equipment, on a date to be specified in a written order from the user department. The contract shall become effective on the Contract Date and shall continue in effect until the end of the term of the contract or until the project has been closed-out unless earlier terminated pursuant to the termination provisions of the contract.

P. **Execution of Contract Documents**

Upon notification of Award of Contract, the County shall furnish the Contractor the conformed copies of Contract Documents for execution by the Contractor and Contractor's surety.

Within ten (10) days after receipt the Contractor shall return all the documents properly executed by the Contractor and the Contractor's surety. Attached to each document shall be an original power-of-attorney for the person executing the bonds for the surety and certificates of insurance for the required insurance coverage.

After receipt of the documents executed by the Contractor and his surety with the power-of-attorney and certificates of insurance, the County shall complete the execution of the documents. Distribution of the completed documents will be made upon completion.

Should the contractor and/or surety fail to execute the documents within the time specified, the County shall have the right to proceed on the Bid Bond accompanying the bid.

If the County fails to execute the documents within the time limit specified, the Contractor shall have the right to withdraw the Contractor's bid without penalty.

Should an extension of any of the time limits stated above be required, this shall be done only by mutual agreement between both parties.

Any agreement or contract resulting from the acceptance of a bid shall be on a County approved document form. The County reserves the right to reject any agreement that does not conform to the Invitation for Bid and any County requirements for agreements and contracts. The County reserves the right to modify the agreement resulting from this bid upon the recommendation of the County Attorney.

Q. **Joint Venture**

Any Bidder intending to respond to this solicitation as a joint venture must submit an executed joint venture agreement with its offer. The agreement must designate those persons or entities authorized to execute documents or otherwise bind the joint venture in all transactions with Fulton County, or be accompanied by a document, binding upon the joint venture and its constituent members, making such designation. Offers from joint ventures that do not include these documents will be rejected as being non-responsive.

R. **Contractors Compliance With All Assurances And/Or Promises Made In Response To Procurement**

Should any Bidder submit a response to the County promising to provide a certain level of service for either the scope of work, MFBE participation, or any other matter, including where such promise or assurance is greater than what is required by the procurement documents, and should this response containing the promise or assurance be accepted by the County and made a part of the Contract Documents, then this degree or level of service promised by the bidder relating to the scope of work, MFBE participation, or other matter shall be considered to be a material part of the Agreement between the bidder and the County, such that the bidder's failure to provide the agreed upon degree or level of service or participation shall be a material breach of the Agreement giving the County just cause to terminate the Agreement for cause, pursuant to the General Conditions of the Agreement.

S. **Bid General Requirements**

The following information pertains to the submission of a Bid to Fulton County, and contains instructions on how Bids must be presented in order to be considered. Listed below are the requirements for all Bidders interested in doing business with Fulton County.

1. The Bid sheets included in this Invitation to Bid ("Bid") must be fully completed and returned with the Bid unless otherwise specified in writing by the Purchasing Department. Type or neatly print the date, company name, and the full legal name and title of the person(s) signing the Bid in the place provided at the bottom of each Bid sheet. Any additional sheets submitted must contain the same signature and Bidder information.

2. All signatures must be executed by person(s) having contracting authority for the Bidder.

3. Absolutely no fax Bids or reproduction Bids will be accepted, except that photocopies may be submitted in addition to the original when multiple copies of the Bid are specifically requested in the solicitation.

4. The envelope in which the Bid response is submitted must be sealed and clearly labeled with the Bid number, project title, due date and time, and the name of the

company or individual submitting the proposal. Bids must be received by the opening date and time shown on this Bid in order to be considered. The Purchasing Agent has no obligation to consider Bids which are not in properly marked envelopes. Contract Compliance submittals shall be submitted in a separate sealed envelope or package.

5. The original and the required number of copies of the Bid must be returned to:

   Fulton County Purchasing Agent
   Fulton County Department of Purchasing and Contract Compliance
   130 Peachtree Street, S.W., Suite 1168
   Atlanta, Georgia 30303

   Any inquiries, questions, clarifications or suggestions regarding this solicitation should be submitted in writing to the Purchasing Contact Person. Contact with any other County personnel in regard to a current solicitation is strictly prohibited in accordance with Fulton County "No Contact Provision" policy outlined in Section 35 and in Section 00020, Invitation to Bid.

6. Show information and prices in the format requested. Prices are to be quoted F.O.B. Destination, and must include all costs chargeable to the Contractor executing the Contract, including taxes. Unless otherwise provided in the Contract, Fulton County shall have no liability for any cost not included in the price. The Contractor shall provide Fulton County the benefit through a reduction in price of any decrease in the Contractor's costs by reason of any tax exemption based upon Fulton County's status as a tax-exempt entity.

7. All prices Bid must be audited by the Bidder to ensure correctness before the Bid is submitted. The Bidder is solely responsible for the accuracy of information placed on a Bid sheet, including prices. Clerical or mathematical error is insufficient to void a successful Bid but a Bidder may withdraw a sealed Bid prior to opening without a penalty.

8. All prices must be submitted in the format requested and less all trade discounts. When multiple items are being Bid, Bidder must show both the unit price and the total extended price for each item. When applicable, the Bidder must include an additional lump sum Bid for groups or items. In the event a Bidder is offering an additional discount on groups of items, Bidder must indicate the total lump sum Bid for the particular group of items before any extra discount, the amount of extra discount, and the net total for the particular group. In the event of an extension error, unit pricing shall prevail.

9. By submitting a signed Bid, Bidder agrees to accept an award made as a result of that Bid under the terms and conditions spelled out in the Bid documents. In the event of a conflict between the different Bid documents, the County's cover Contract (if used) shall have precedence, followed in order by the Invitation to Bid, Purchase Order, Bid, Contractor's Warranty Agreement, Maintenance Agreement, and/or other Contractor provided agreements.

10. A Bidder may submit only one (1) Bid response for each specific Bid solicitation unless otherwise authorized in the specifications.

11. All prices submitted by the Bidder to Fulton County must be guaranteed by the authorized person(s) against any price increase for the time period designated in the Bid specifications, and Fulton County must be given the benefit of any price decrease occurring during such designated time period.

12. All items Bid must be new. Used, rebuilt and refurbished items will not be considered unless specifically authorized by Fulton County in the written specifications.

13. All Bidders must specify in the Bid response the earliest actual delivery date for each item unless otherwise specified in writing by Fulton County. The delivery date may be a factor in deciding the Bidder's capability to perform.

14. A successful Bidder's delivery ticket(s) and invoice(s) must list each item separately and must show Fulton County's purchase order number as well as the proper department and address to which delivery was made, as listed on the purchase order or in the Bidder's contract with Fulton County.

15. Unless clearly shown as "no substitute" or words to that effect, any items in this invitation to Bid which have been identified, described or referenced by a brand name or trade name are for reference only. Such identification is intended to be descriptive but not restrictive, and is to indicate the general quality and characteristics of products that may be offered. Each item Bid must be individually identified as to whether it is a specified item or an equivalent item by typing or printing after the item(s): The brand name; model or manufacturer's number, or identification regularly used in the trade. Deviations from the specifications must be clearly and fully listed on the Bid sheet, including photographs or cuts, specifications, and dimensions of the proposed "alternate". Fulton County is the sole judge of "exact equivalent", or "alternate". The factors to be considered are: function, design, materials, construction, workmanship, finishes, operating features, overall quality, local service facilities, warranty terms and service, and other relevant features of item(s) Bid.

16. For all Bids, Fulton County reserves the right to request representative samples. If requested, samples must be delivered at the Bidder's cost within three (3) business days. Samples are submitted at the risk of the Bidder and may be subjected to destructive tests by Fulton County. Samples must be plainly tagged with Fulton County's Bid number, item name, manufacturer, and the name of the Bidder.

17. Item(s) Bid must be complete and ready to operate. No obvious omissions of components or necessary parts shall be made even though the specifications may not detail or mention them. Unit(s) must be furnished with factory installed equipment and must be comparable with the basic form, fit, and functional requirements which are all to be included in the base price as well as any other equipment included as standard by the manufacturer or generally provided to the buying public.

18. All successful Bidders must assume full responsibility for all item(s) damaged prior to F.O.B. Destination delivery and agree to hold harmless Fulton County of all responsibility for prosecuting damage claims.

19. All successful Bidders must assume full responsibility for replacement of all defective or damaged goods within thirty (30) days of notice by Fulton County of such defect or damage.

20. All successful Bidders must assume full responsibility for providing or ensuring warranty service on any and all items including goods, materials, or equipment provided to the County with warranty coverage. If a successful Bidder is not the manufacturer, all manufacturers' warranties must be passed through to Fulton County. The Bidder and not Fulton County is responsible for contacting the manufacturer of the warranty service provided during the warranty period and supervising the completion of the warranty service to the satisfaction of Fulton County.

21. As a successful Bidder providing any equipment which requires fitting and assembly, the Bidder shall be solely responsible for such installation being performed by a manufacturer's authorized or approved servicer or an experienced worker, utilizing workmanship of the highest caliber. The Bidder must verify all dimensions at the site, shall be responsible for their correctness, and shall be responsible for the availability of replacement parts when specified in writing by Fulton County in the specifications, purchase order, or other contract.

22. A successful Bidder is solely responsible for disposing of all wrappings, crating, and other disposable material upon deliver of item(s).

23. All Bidders are required to be authorized distributors or regularly engaged in the sale or distribution of the type of goods, materials, equipment or services for which the Bidder is submitting a Bid response in addition, all Bidders are required to provide Fulton County with three (3) written references documenting the successful completion of Bids or contracts for the types of items including goods, materials, equipment, or services for which the Bidder is submitting a Bid response. In instances where a Bidder has never supplied such goods, material, equipment, or services before, the Bidder must submit with the Bid response a statement and supporting documentation demonstrating such expertise, knowledge, or experience to establish the Bidder as a responsible Bidder, capable of meeting the Bid requirements should an award be made. No exceptions to this provision will be made unless authorized in the Bid specifications.

24. Bidders may be required to furnish evidence that they maintain permanent places of business of a type and nature compatible with their Bid proposal, and are in all respects competent and eligible vendors to fulfill the terms of the specifications. Fulton County may make such investigations as it deems necessary to determine the ability of the Bidder to perform such work, and reserves the right to reject any Bidder if evidence fails to indicate that the Bidder is qualified to carry out the obligation of the Contract and to complete the work satisfactorily.

25. All Bidders must comply with all Fulton County Purchasing laws, policies, and procedures, non-discrimination in contracting and procurement ordinances, and relevant state and federal laws including but not limited to compliance with EEOC hiring guidelines and requirements under the Americans with Disabilities Act. Successful Bidder must obtain all permits, licenses, and inspections as required and furnish all labor, materials, insurance, equipment, tools, supervision, and incidentals necessary to accomplish the work in these specifications.

26. If a successful Bidder is unable or unwilling to enter into a Contract with Fulton County subsequent to being granted an award, or who fails to perform in accordance with the Bid specifications the Bidder will be subject to damages and all other relief allowed by law.

27. Successful Bidders contract directly with Fulton County and are the party or parties obligated to perform. Contracts may not be assigned and any failure to perform the Contract in accordance with the specifications will constitute a breach of Contract and may result in a Bidder being found to be "non-responsive" in the future.

28. In case of default by the successful Bidder, Fulton County may procure the articles for services from another source and hold the successful Bidder responsible for any resulting excess cost.

29. The County may award any Bid in whole or in part to one or more vendors or reject all Bids and/or waive any technicalities if it is in the best interests of the County to do so. In the event that all Bids are not rejected, Bids for items including goods, materials,

equipment, and services will be awarded to the lowest "responsible" Bidder(s) as determined by Fulton County. Submitting the lowest Bid, as published at the Bid opening, does not constitute an award or the mutual expectation of an award of a Contract and purchase order. For purposes of this notice and the attached Bid sheets, a purchase order is a Contract to provide items including goods, materials, equipment, and services and is intended to have the full force and effect of a Contract. A breach of the terms and conditions of a purchase order constitutes a breach of Contract.

30. Bids for projects that are solicited pursuant to the Georgia Local Government Public Works Construction Law (O.C.G.A. § 36-91-1 et seq.) may withdrawn as follows:

    Competitive sealed Bids ("Bid") may not be revoked or withdrawn until 60 days after the time set by the governmental entity for opening of Bids. At the end of this time period, the Bid will cease to be valid, unless the Bidder provides written notice to the County prior to the scheduled expiration date that the Bid will be extended for a time period specified by the County.

31. In the evaluation of the Bids, any award will be subject to the Bid being:

    a. Compliant to the specification – meets form, fit, and function requirements stated or implied in the specification.
    b. Lowest cost to the County over projected useful life.
    c. Administratively Compliant – Including all required bonds, insurance, established quality of work and general reputation, financial responsibility, relevant experience, and related criteria.

32. All proposals and Bids submitted to Fulton County are subject to the Georgia "Open Records Act", Official Code of Georgia, Annotated (O.C.G.A.) §50-18-70 et seq.

33. All proposals and Bids submitted to Fulton County involving Utility Contracting are subject to the Georgia law governing licensing of Utility Contractors, O.C.G.A. §43-14-8.2(h). The Utility Contractor License number of the person who will perform the utility work shall be written on the face of the Bid envelope.

34. The apparent silence of this specification, and any supplement thereto, as to details, of the omission from it of a detailed description concerning any point, will be regarded as meaning only the best commercial practices are to prevail. Only materials of the highest quality, correct type, size, and design are to be used. All interpretations of this specification will be made upon the basis of this statement, with Fulton County interpretation to prevail.

35. It is the policy of Fulton County that the evaluation and award process for County contracts shall be free from both actual and perceived impropriety, and that contacts between potential vendors and County officials, elected officials and staff regarding pending awards of County contracts shall be prohibited.

    a. No person, firm, or business entity, however situated or composed, obtaining a copy of or responding to this solicitation, shall initiate or continue any verbal or written communication regarding this solicitation with any County officer, elected official, employee, or designated County representative, between the date of the issuance of this solicitation and the date of the County Manager's recommendation to the Board of Commissioners for award of the subject contract, except as may otherwise be specifically authorized and permitted by the terms and conditions of this solicitation.

b. All verbal and written communications initiated by such person, firm, or entity regarding this solicitation, if same are authorized and permitted by the terms and conditions of this solicitation, shall be directed to the Purchasing Agent.

c. Any violation of this prohibition of the initiation or continuation of verbal or written communications with County officers, elected officials, employees, or designated County representatives shall result in a written finding by the Purchasing Agent that the submitted Bid or proposal of the person, firm, or entity in violation is "non-responsive", and same shall not be considered for award.

36. Any Bidder intending to respond to this solicitation as a Joint Venture must submit an executed Joint Venture Agreement with this Bid. This agreement must designate those persons or entities authorized to execute documents or otherwise bind the Joint Venture in all transactions with Fulton County, or are accompanied by a document, binding upon the Joint Venture and its constituent members, making such designation. Bids from Joint Ventures that do not include these documents will be rejected as being "non-responsive".

37. Any Bidder intending to respond to this solicitation must complete all of the Procurement Affidavit Forms provided in this solicitation. Bids that do not include these completed documents will be rejected as being "non-responsive".

Required Bid Submittal Check List for Invitation To Bid (ITB)

The following submittals shall be completed and submitted with each bid (see table below "Required Bid Submittal Check List."). **Please check to make sure that the required submittals are in the envelope before it is sealed. Failure to submit all required submittals may deem your proposal non-responsive.**

Submit **one (1) Original bid**, signed and dated, and **three** (**3**) **complete copies** of the Original Bid including all required documents.

Item #	Required Bid Submittal Check List	Check (√)
1	Bid Form (Section 00300) – All dollar amounts must be both in writing AND figures and represent prices for the published scope of work without exceptions.	
2	Acknowledgement of each Addendum (acknowledged both on the Bid Form, Section 00300, and on the form included with each addendum).	
3	Bid Bond (Section 00410) (separate envelope if Public Works Construction project)	
4	Purchasing Forms (Section 00420) Form A - Non-Collusion Affidavit of Prime Bidder/Offeror Form B - Certificate of Acceptance of Request for Bid/Proposal Requirements Form C - Georgia Utility Contractor License Form D - Certificate Regarding Debarment Form E - Disclosure Form & Questionnaire	
5	Office of Contract Compliance Requirements (Section 00430) Exhibit A - Promise of Non-Discrimination (for Prime and each Sub) Exhibit B - Employment Record (for Prime and each Sub) Exhibit C - Schedule of Intended Subcontractor Utilization Exhibit D - Letter of Intent to Perform as Subcontractor Exhibit E - Declaration Regarding Subcontractor Practices Exhibit F - Joint Venture Disclosure Affidavit Exhibit G - Prime Contractor/Subcontractor Utilization Report Equal Business Opportunity Plan (EBO Plan)	
6	Risk Management Insurance Provisions Form (Section 00490) and proof of insurance, either letter from insurer or Certificate of Insurance.	

END OF SECTION

BID FORM

Submitted To: Fulton County Government

Submitted By: _____

For: **W032 FREEMANVILLE ROAD WATER MAIN**

Submitted on _____, 20__.

The undersigned, as Bidder, hereby declares that the only person or persons interested in the Bid as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this Bid or in the Contract to be entered into; that this Bid is made without connection with any other person, company or parties making a Bid; and that it is in all respects fair and in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the Drawings and Specifications for the work and contractual documents relative thereto, and has read all instructions to Bidders and General Conditions furnished prior to the openings of bids; that he has satisfied himself relative to the work to be performed.

The Bidder proposes and agrees, if this Bid is accepted, to contract with the Board of Commissioners of Fulton County, Atlanta, Georgia, in the form of contact specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary, and to complete the construction of the work in full and complete accordance with the shown, noted, and reasonably intended requirements of the Specifications and Contract Documents to the full and entire satisfaction of the Board of Commissioners of Fulton County, Atlanta, Georgia, with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and Contract Documents for the following prices.

THE BASE BID TOTAL IS THE AMOUNT UPON WHICH THE BIDDER WILL BE FORMALLY EVALUATED AND WHICH WILL BE USED TO DETERMINE THE LOWEST RESPONSIBLE BIDDER. Please make sure that all line items below are accurately calculated and total up to this inclusive amount.

The base bid may not be withdrawn or modified for a period of sixty (60) days following the receipt of bids.

BASE BID TOTAL: ITEMS 1 THROUGH 17 (BELOW), INCLUSIVE, IN THE AMOUNT OF:

_____

_____DOLLARS

($_____).

Make sure that all line items below are accurately calculated and total up to the inclusive BASE BID TOTAL amount entered on Page 1.

Method of Bidding

The unit or lump sum price for each of the several items in the Bid of each Bidder shall include its pro rata share of overhead and profit so that the sum of the products, obtained by multiplying the quantity shown for each item by the unit price, represents the total Bid. Any Bid not conforming to this requirement may be rejected. Additionally, Unbalanced Bids or conditional Bids will be subject to rejection. The special attention of all Bidders is called to this provision, for should conditions make it necessary to revise the quantities, no limit will be fixed for such increased or decreased quantities nor extra compensation allowed.

ITEM 1 - EROSION AND SEDIMENTATION CONTROL

a.	1	Each	Construction Exits	$_____/EA	$_____
b.	360	L.F.	Hay Bale Sediment Barriers	$_____/LF	$_____
c.	17,000	L.F.	Reinforced (Type C) Silt Fence	$_____/LF	$_____
d.	30	Each	Stone Check Dams	$_____/EA	$_____
e.	2	Each	Inlet Sediment Traps	$_____/EA	$_____
f.	1	Each	Temporary Stream Crossing	$_____/EA	$_____
g.	28,000	L.F.	Permanent Grassing	$_____/LF	$_____
h.	500	S.Y.	Sodding	$_____/SY	$_____

ITEM 2 - DUCTILE IRON PIPE WATER MAIN

a.	70	L.F.	12-Inch DIP (RJ)	$_____/LF	$_____
b.	26,000	L.F.	24-Inch DIP	$_____/LF	$_____
c.	2,100	L.F.	24-Inch Dip (RJ)	$_____/LF	$_____

ITEM 3 - DUCTILE IRON FITTINGS

a.	0.5	TON	Fittings (6-Inch through 16-Inch)	$_____/TN	$_____
b.	12	TON	Fittings (24-Inch)	$_____/TN	$_____

ITEM 4 - VALVES

a.	8	Each	6-Inch Gate Valve	$_____/EA	$_____
b.	1	Each	12-Inch Gate Valve	$_____/EA	$_____
c.	2	Each	16-Inch Butterfly Valve	$_____/EA	$_____
d.	10	Each	24-Inch Butterfly Valve	$_____/EA	$_____

ITEM 5 - FIRE HYDRANTS

a.	8	Each	Fire Hydrant Assembly - Complete	$_____/EA	$_____
b.	85	L.F.	6-Inch Hydrant Leads	$_____/LF	$_____

ITEM 6 - AIR VALVES

a.	8	Each	Air Valve & Manhole Assembly - Complete	$_____/EA	$_____

ITEM 7 - CONNECT TO EXISTING WATER MAINS

a.	1	Each	12-Inch x 12-Inch Tapping Sleeve and Valve	$_____/EA	$_____
b.	1	Each	16-Inch x 16-Inch Tapping Sleeve and Valve	$_____/EA	$_____
c.	1	Each	24-Inch Solid Sleeve	$_____/EA	$_____

ITEM 8 - THRUST RESTRAINT

a.	11	Each	24-Inch Pipe Thrust Collar	$_____/EA	$_____
b.	13	C.Y.	Thrust Blocking	$_____/CY	$_____

ITEM 9 - CLEANUP, TESTING, AND DISINFECTION

a.	28,500	L.F.	All Diameters	$_____/LF	$_____
b.	5	Each	Sampling Station	$_____/EA	$_____

ITEM 10 - BORE AND JACK CROSSINGS

a.	1,300	L.F.	36-Inch Steel Casing	$_____/LF	$_____
b.	1,300	L.F.	24-Inch DIP in Casing	$_____/LF	$_____

ITEM 11 - REMOVE AND REPLACE PAVEMENT

a.	550	S.Y.	Asphalt	$_____/SY	$_____
b.	75	S.Y.	Concrete	$_____/SY	$_____

ITEM 12 - MISCELLANEOUS CONCRETE

a.	30	L.F.	24" Concrete Pipe Encasement	$_____/LF	$_____

ITEM 13 - TRENCH ROCK EXCAVATION

a.	1,400	C.Y.	Base Cost	$_____/CY	$_____
b.	1,400	C.Y.	Premium Cost	$_____/CY	$_____

* * * * * ADDITIONAL WORK IF ORDERED BY THE ENGINEER * * * * *

ITEM 14 - TRENCH STABILIZATION

a.	500	C.Y.	Beyond Bedding	$_____/CY	$_____

ITEM 15 - REMOVAL OF UNSUITABLE MATERIAL AND REPLACEMENT WITH

a.	500	C.Y.	Crushed Stone	$_____/CY	$_____
b.	500	C.Y.	Suitable Earth Material	$_____/CY	$_____

ITEM 16 - ADDITIONAL DEPTH OF COVER

a.	1,000	L.F.	2-Feet Through 4-Feet	$_____/LF	$_____
b.	500	L.F.	4-Feet Through 6-Feet	$_____/LF	$_____

ITEM 17 - CASH ALLOWANCES

a.	Soils, Concrete, and Asphalt Testing	$20,000
b.	Construction Surveying	$10,000
c.	Additional Landscaping	$10,000
d.	Utility Conflict Resolution	$30,000
e.	Unknown Easement Stipulations	$20,000
f.	Blasting Monitoring	$20,000

The Bidder agrees hereby to commence work under this Contract, with adequate personnel and equipment, on a date to be specified in a written order of the Contracting Officer and to fully complete all work under this Contract within **300** consecutive calendar days from and including said date.

The Bidder declares that he understands that the quantities shown for the unit prices items are subject to either increase or decrease, and that should the quantities of any of the items of work be increased, the Bidder proposes to do the additional work at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for anticipated profits for any decrease in quantities; and that actual quantities will be determined upon completion of work, at which time adjustments will be made to the contract amount by direct increase or decrease.

In case of discrepancies between the figures shown in the unit prices and the totals, the unit prices shall apply and the totals shall be corrected to agree with the unit prices. In case of discrepancies between written amounts and figures, written amounts shall take precedence over figures and the sum of all Bid extensions (of unit prices) plus lump sum items shall take precedence over BID TOTAL.

The Bidder furthermore agrees that, in the case of a failure on his part to execute the Contract Agreement and Bonds within ten (10) days after receipt of conformed contract documents for execution, the Bid Bond accompanying his bid and the monies payable thereon shall be paid into the funds of the Owner as liquidated damages for such failure.

Enclosed is a Bid Bond in the approved form, in the sum of:_____

_____Dollars

($_____) according to the conditions of “Instructions to Bidders” and provisions thereof.

The undersigned acknowledges receipt of the following addenda (list by the number and date appearing on each addendum) and thereby affirms that its Bid considers and incorporates any modifications to the originally issued Bidding Documents included therein.

ADDENDUM # _____DATED _____

ADDENDUM # _____DATED _____

ADDENDUM # _____DATED _____

ADDENDUM # _____DATED _____

BIDDER: _____

By: _____
[Name Typed or Printed]

_____
[Name Signed]

Title: _____

Business Address: _____

_____

_____

Business Phone: _____

Bidder's Contractor License No: _____
[State/County]

License Expiration Date: _____

Note: If the Bidder is a corporation, the Bid shall be signed by an officer of the corporation; if a partnership, it shall be signed by a partner. If signed by others, authority for signature shall be attached.

The full name and addresses of persons or parties interested in the foregoing Bid, as principals, are as follows:

Name	Address

The Bidder shall list below work he has done of similar nature to this bid as references that will afford the Owner opportunity to judge the Bidder's experience and skill.

PROJECT NAME AND OWNER	OWNERS REPRESENTATIVE	PHONE

END OF SECTION

BID BOND

No bid for a contract in Fulton County for work to be done shall be valid for any purpose unless the Contractor shall give a Bid Bond with good and sufficient surety payable to, in favor of, and for the protection of Fulton County. The Bid Bond shall not be less than 5% of the total amount payable by the terms of the Contract. No bid shall be read aloud or considered if a proper bid bond has not been submitted.

Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Georgia.

Attestation for the corporation must be by the corporate officer; for a partnership by another partner; for an individual by a notary with the corporate seal.

BID BOND
W032 FREEMANVILLE ROAD WATER MAIN
FULTON COUNTY GOVERNMENT

KNOW ALL MEN BY THESE PRESENTS, THAT WE_____

_____

hereinafter called the PRINCIPAL, and _____

_____

hereinafter call the SURETY, a corporation chartered and existing under the laws of the State of _____and duly authorized to transact Surety business in the State of Georgia, are held and firmly bound unto the Fulton County Government (COUNTY), in the penal sum of _____ _____Dollars and Cents ($_____) good and lawful money of the United States of America, to be paid upon demand of the COUNTY, to which payment well and truly to be made we bind ourselves, our heirs, executors, and administrators and assigns, jointly and severally and firmly by these presents.

WHEREAS the PRINCIPAL has submitted to the COUNTY, for **W032 FREEMANVILLE ROAD WATER MAIN,** a Bid;

WHEREAS the PRINCIPAL desires to file this Bond in accordance with law:

NOW THEREFORE: The conditions of this obligation are such that if the Bid be accepted, the PRINCIPAL shall within ten (10) calendar days after receipt of written notification from the COUNTY of the award of the Contract execute the Contract in accordance with the Bid and upon the terms, conditions and prices set forth therein, in the form and manner required by the COUNTY, and execute sufficient and satisfactory Performance and Payments Bonds payable to the COUNTY, each in the amount of one hundred percent (100%) of the total contract price, in form and with security satisfactory to said COUNTY, 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 COUNTY, 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 the event suit is brought upon this Bond by the COUNTY and judgment is recovered, the SURETY shall pay all costs incurred by the COUNTY in such suit, including attorney's fees to be fixed by the Court.

Enclosed is a Bid Bond in the approved form, in the amount of _____
_____Dollars
($_____) being in the amount of five percent (5%) of the Contract Sum. The money payable on this bond shall be paid to the COUNTY, for the failure of the Bidder to execute a Contract within ten (10) days after receipt of the Contract and at the same time furnish a Payment Bond and Performance Bond.

(SIGNATURES ON NEXT PAGE)

IN TESTIMONY THEREOF, the PRINCIPAL and SURETY have caused these presents to be duly signed and sealed this _____day of _____,_200_.

ATTEST:

_____
PRINCIPAL

_____ BY_____

(SEAL)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the Secretary of the Corporation named as principal in the within bond; that _____, who signed the said bond of said corporation; that I know this signature, and his/her signature thereto is genuine; and that said bond was duly signed, sealed and attested for in behalf of said Corporation by authority of its governing body.

_____
SECRETARY

(CORPORATE SEAL)

_____
SURETY

_____ BY_____
(SEAL)

END OF SECTION

PURCHASING FORMS & INSTRUCTIONS

This section contains the procurement forms that are required to be executed and submitted with the bid package. This section does not contain all forms required to be included with the bid package submittal.

To be deemed responsive to this RFP, Bidders must provide the information requested and complete in detail all Purchasing Forms. The appropriate individual(s) authorized to commit the Bidder to the Project must sign the Purchasing Forms. Bidders should reproduce each Purchasing Form, as required, and complete the appropriate portions of the forms provided in this section.

- Form A: Non-Collusion Affidavit of Prime Bidder/Offeror
- Form B: Certificate of Acceptance of Request for Bid/Proposal Requirements
- Form C: Contractor's Georgia Utility License Certification
- Form D: Certification Regarding Debarment
- Form E: Disclosure Form and Questionnaire

FORM A: NON-COLLUSION AFFIDAVIT OF BIDDER/OFFEROR

STATE OF GEORGIA

COUNTY OF FULTON

I, _____ certify that pursuant to Fulton County Code Section 2-320 (11), this bid or proposal is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same work, labor or service to be done or the supplies, materials or equipment to be furnished and is in all respects fair and without collusion or fraud. I understand collusive bidding is a violation of state and federal law and can result in fines, prison sentences and civil damages awards. I agree to abide by all conditions of this bid or proposal and certify that I am authorized to sign this bid or proposal for the bidder.

Affiant further states that pursuant to O.C.G.A. Section 36-91-21 (d) and (e), _____ has not, by itself or with others, directly or indirectly, prevented or attempted to prevent competition in such bidding or proposals by any means whatsoever. Affiant further states that (s)he has not prevented or endeavored to prevent anyone from making a bid or offer on the project by any means whatever, nor has Affiant caused or induced another to withdraw a bid or offer for the work.

Affiant further states that the said offer of _____ is bona fide, and that no one has gone to any supplier and attempted to get such person or company to furnish the materials to the bidder only, or if furnished to any other bidder, that the material shall be at a higher price.

_____
(COMPANY NAME)

_____
(PRESIDENT/VICE PRESIDENT)

Sworn to and subscribed before me this _____ day of _____, 200__.

_____
(SECRETARY/ASSISTANT SECRETARY)

(Affix corporate seal here, if a corporation)

Notary Public: _____

County: _____

Commission Expires: _____

NOTE:

IF THE OFFEROR IS A PARTNERSHIP, ALL OF THE PARTNERS AND ANY OFFICER, AGENT, OR OTHER PERSON WHO MAY HAVE REPRESENTED OR ACTED FOR THEM IN BIDDING FOR OR PROCURING THE CONTRACT SHALL ALSO MAKE THIS OATH.

IF THE OFFEROR IS A CORPORATION, ALL OFFICERS, AGENTS, OR OTHER PERSONS WHO MAY HAVE ACTED FOR OR REPRESENTED THE CORPORATION IN BIDDING FOR OR PROCURING THE CONTRACT SHALL MAKE THE OATH.

FORM B: FULTON COUNTY CERTIFICATE OF ACCEPTANCE OF BID/PROPOSAL REQUIREMENTS

This Is To Certify That On This Day Bidder/Proposer Acknowledges That He/She Has Read This Bid Document, Pages _____ To _____ Inclusive, Including Addendum(s) ____ To ____, And/Or Appendices ____ To ____, In Its Entirety, And Agrees That No Pages Or Parts Of The Document Have Been Omitted, That He/She Understands, Accepts And Agrees To Fully Comply With The Requirements Therein, And That The Undersigned Is Authorized By The Bidding/Proposing Company To Submit The Bid/Proposal Herein And To Legally Obligate The Bidder/Proposer Thereto.

Company: _____

Signature: _____

Name: _____

Title: _____

Date: _____

(Corporate Seal)

FORM C: CONTRACTOR'S GEORGIA UTILITY LICENSE CERTIFICATION

Contractor's Name: _____

Utility Contractor's Name: _____

Expiration Date of License:_____

(ATTACHED COPY OF LICENSE)

I certify that the above information is true and correct and that the classification noted is applicable to the Bid for this Project.

Signed: _____

Date: _____

FORM D: CERTIFICATION REGARDING DEBARMENT

(1) The Offeror certifies that neither it or its subcontractors is presently debarred, suspended, proposed for debarment, declared ineligible, or otherwise excluded from doing business with any government agency. Any such exclusion may cause prohibition of your firm from participating in any procurement by the Fulton County Government.

(2) If the Offeror is unable to certify to any of the statements in this certification, such Offeror or subcontractor shall attach an explanation to this bid or proposal.

INSTRUCTIONS FOR CERTIFICATION

By signing and submitting this certification, the Offeror is providing the certification set out below:

(1) The certification in this clause is a material representation of fact upon which reliance will be placed. If it is later determined that the prospective vendor knowingly rendered a false certification, the Purchasing Agent may pursue all available remedies, including suspension and/or debarment, for withdrawal of award or termination of a contract.

(2) The prospective Offeror shall provide immediate written notice to the Purchasing Agent if at anytime the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(3) Offeror shall be under a continuing duty to immediately inform the Purchasing Agent in writing of any changes, if as a result of such changes, the Offeror certification regarding debarment is affected.

DEBARMENT ORDINANCE

The following Section 2-322 of Fulton County Code of Laws establishes the procedure for the debarment of contractors.

(a) ***Authority to suspend.***

After reasonable notice to the entity involved and reasonable opportunity for that entity to be heard, the Purchasing Agent, after consultation with user department, the County Manager and the County Attorney shall have the authority to suspend an entity for cause from consideration for award of county contracts. As used in this section, the term entity means any business entity, individual, firm, contractor, subcontractor or business corporation, partnership, limited liability corporation, firm, contractor, subcontractor or business structured; provided, further, that any such entity shall also be subject to suspension under this section if any of its constituents, members, subcontractors at any tier of such entity's and the entity, or any constituent or member, knew or should have known of the commission of the act. The suspension shall be for a period not to exceed three (3) years unless cause is based on a felony conviction for an offense related or associated with fraudulent contracting or misappropriation of funds wherein the suspension shall not exceed seven (7) years.

(b) ***Causes for Suspension. The causes for suspension include:***

(1) Conviction for commission of a criminal offense as an incident to obtain or attempting to obtain a public or private contract or subcontract, or in performance of such contract or subcontract;

(2) Conviction of state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property or other offense indicating a lack of business integrity or business honesty which currently, seriously and directly affects responsibility as a county contractor.

(3) Conviction of state or federal anti-trust statues arising out of the solicitation and submission of bids and proposals;

(4) Violation of contract provisions, as set forth below, of a character which is regarded by the Purchasing Agent to be so serious as to justify suspension action:

a. Failure to perform in accordance with the specifications within a time limit provided in a county contract;

b. A recent record of failure to perform or unsatisfactory performance in accordance with the terms of one or more contracts; provided, that failure to perform or unsatisfactory performance caused by acts beyond the control of the contractor shall not be considered to be a basis for suspension;

c. Material representation of the composition of the ownership or workforce or business entity certified to the county as a minority business enterprise; or

d. Falsification of any documents.

(5) For violation of the ethical standards set forth in Fulton County Code Chapter 9, Code of Ethics.

(6) Knowing misrepresentation to the county, of the use which a majority owned contractor intends to make a minority business enterprise (a business entity at least 51 percent of which is owned and controlled by minority persons, as defined in Fulton County Code Chapter 6, Article B, Minority Business Enterprise Affirmative Action Program and certified as such by the County) as a subcontractor or a joint venture partner, in performing work under contract with the County.

Failure to fully and truthfully provide the information required, may result in the disqualification of your bid/proposal from consideration or termination of the Contract, once awarded. This document must be completed and included as a part of the bid/proposal package along with other required documents.

[SIGNATURES ON NEXT PAGE]

Under penalty of perjury, I declare that I have examined this certification and all attachments hereto, if applicable, to the best of my knowledge and belief, and all statements contained hereto are true, correct, and complete.

On this _____ day of _____, 200__

_____
(Legal Name of Offeror) (Date)

_____
(Signature of Authorized Representative) (Date)

_____
(Title)

FORM E: DISCLOSURE FORM AND QUESTIONNAIRE

1. Please provide the names and business addresses of each of the Offeror's firm's officers and directors.

   For the purposes of this form, the term "Offeror" means an entity that responds to a solicitation for a County contract by either submitting a proposal in response to a Request for Proposal or a Request for Qualification or a Bid in response to an Invitation to Bid.

   Describe accurately, fully and completely, their respective relationships with said Offeror, including their ownership interests and their anticipated role in the management and operations of said Offeror.

2. Please describe the general development of said Offeror's business during the past five (5) years, or such shorter period of time that said Offeror has been in business.

3. Please state whether any employee, agent or representative of said Offeror who is or will be directly involved in the subject project has or had within the last five (5) years: (i) directly or indirectly had a business relationship with Fulton County; (ii) directly or indirectly received revenues from Fulton County; or (iii) directly or indirectly receives revenues from the result of conducting business on Fulton County property or pursuant to any contract with Fulton County. Please describe in detail any such relationship.

LITIGATION DISCLOSURE:

Failure to fully and truthfully disclose the information required, may result in the disqualification of your bid or proposal from consideration or termination of the Contract, once awarded.

1. Please state whether any of the following events have occurred in the last five (5) years with respect to said Offeror. If any answer is yes, explain fully the following:

   (a) whether a petition under the federal bankruptcy laws or state insolvency laws was filed by or against said Offeror, or a receiver fiscal agent or similar officer was appointed by a court for the business or property of said Offeror;

   (b) whether Offeror was subject of any order, judgment, or decree not subsequently reversed, suspended or vacated by any court of competent jurisdiction, permanently enjoining said Offeror from engaging in any type of business practice, or otherwise eliminating any type of business practice; and

   (c) whether said Offeror's business was the subject of any civil or criminal proceeding in which there was a final adjudication adverse to said or Offeror, which directly arose from activities conducted by the business unit or corporate division of said Offeror which submitted a bid or proposal for the subject project. If so please explain.

2. Have you or any member of your firm or team to be assigned to this engagement been indicted or convicted of a criminal offense within the last five (5) years?

   Circle One: YES NO

3. Have you or any member of your firm or team ever been terminated (for cause or otherwise) from any work being performed for Fulton County or any other Federal, State or Local Government ?

   Circle One: YES NO

4. Have you or any member of your firm or team been involved in any claim or litigation adverse to Fulton County or any other Federal, State or Local Government, or private entity during the last three (3) years?

   Circle One: YES NO

5. Has any offeror, member of offeror's team, or officer of any of them (with respect to any matter involving the business practices or activities of his or her employer), been notified within the five (5) years preceding the date of this offer that any of them are the target of a criminal investigation, grand jury investigation, or civil enforcement proceeding?

   Circle One: YES NO

If you have answered "YES" to any of the above questions, please indicate the name(s) of the person(s), the nature, and the status and/or outcome of the information, indictment, conviction, termination, claim or litigation, the name of the court and the file or reference number of the case, as applicable. Any such information should be provided on a separate page, attached to this form and submitted with your proposal.

NOTE: If any response to any question set forth in this questionnaire has been disclosed in any other document, a response may be made by attaching a copy of such disclosure. (For example, said Offeror's most recent filings with the Securities and Exchange Commission ("SEC") may be provided if they are responsive to certain items within the questionnaire.) However, for purposes of clarity, Offeror should correlate its responses with the exhibits by identifying the exhibit and its relevant text.

Disclosures must specifically address, completely respond and comply with all information requested and fully answer all questions requested by Fulton County. Such disclosure must be submitted at the time of the bid or proposal submission and included as a part of the bid/proposal submitted for this project. Disclosure is required for Offerors, joint venture partners and first-tier subcontractors.

Failure to provide required disclosure, submit officially signed and notarized documents or respond to any and all information requested/required by Fulton County can result in the bid/proposal declared as non-responsive. This document must be completed and included as a part of the bid/proposal package along with other required documents.

[SIGNATURES ON NEXT PAGE]

Under penalty or\f perjury, I declare that I have examined this questionnaire and all attachments hereto, if applicable, to the best of my knowledge and belief, and all statements contained hereto are true, correct, and complete.

On this _____ day of _____, 200__

_____
(Legal Name of Proponent) (Date)

_____
(Signature of Authorized Representative) (Date)

_____
(Title)

Sworn to and subscribed before me,

this _____ day of _____, 200__

_____
(Notary Public) (Seal)

Commission Expires _____
(Date)

END OF SECTION

CONTRACT COMPLIANCE REQUIREMENTS

NON-DISCRIMINATION IN CONTRACTING AND PROCUREMENT

Policy Statement: It is the policy of Fulton County Government that discrimination against businesses by reason of the race, color, gender or national origin of the ownership of any such business is prohibited. Furthermore, it is the policy of the Board of Commissioners ("Board") that Fulton County and all vendors and contractors doing business with Fulton County shall provide to all businesses the opportunity to participate in contracting and procurement paid, in whole or in part, with monetary appropriations of the Board. Similarly, it is the policy of the Board that the contracting and procurement practices of Fulton County should not implicate Fulton County as either an active or passive participant in the discriminatory practices engaged in by private contractors seeking to obtain contracts with Fulton County.

Equal Business Opportunity Plan (EBO Plan): In addition to the proposal submission requirements, each vendor **must** submit an Equal Business Opportunity Plan (EBO Plan) with their bid/proposal. The EBO Plan is designed to enhance the utilization of a particular racial, gender or ethnic group by a bidder/proposer, contractor, or vendor or by Fulton County. The respondent **must** outline a plan of action to encourage and achieve diversity and equality in the available procurement and contracting opportunities with *this solicitation*.

The EBO Plan **must** identify and include:

1. Potential opportunities within the scope of work of *this solicitation* that will allow for participation of racial, gender or ethnic groups.

2. Efforts that will be made by the bidder/proposer to encourage and solicit minority and female business utilization in this solicitation.

Fulton County encourages joint ventures, teaming, partnering and mentor-protégé relationships with minority and female businesses in an effort to achieve contracting and procurement diversity.

Prompt Payment: The prime contractor must certify in writing and must document on the Exhibit G Form (Prime Contractor/Subcontractor Utilization Report) that all subcontractors, sub-consultants and suppliers have been promptly paid for work and materials, (less any retainage by the prime contractor prior to receipt of any further progress payments). In the event the prime contractor is unable to pay subcontractors, sub-consultants or suppliers until it has received a progress payment from Fulton County, the prime contractor shall pay all subcontractors, sub-consultants or suppliers funds due from said progress payments within forty-eight (48) hours of receipt of payment from Fulton County. In no event shall a subcontractor, sub-consultant or supplier be paid later than fifteen (15) days as provided for by state law.

REQUIRED FORMS AND EBO PLAN:

In order to be compliant with the intent and provisions of the Fulton County Non-Discrimination in Purchasing and Contracting Ordinance (99-0960), bidders/proposers must submit the following completed documents. Failure to provide this information shall result in the bid/proposal being deemed non-responsive:

- **Exhibit A** - Promise of Non-Discrimination (for Prime and each Sub-contractor)
- **Exhibit B** - Employment Report (for Prime and each Sub-contractor)
- **Exhibit C** - Schedule of Intended Subcontractor Utilization
- **Exhibit D** - Letter of Intent to Perform As a Subcontractor or Provide Materials or Services
- **Exhibit E** - Declaration Regarding Subcontractor Practices
- **Exhibit F** - Joint Venture Disclosure Affidavit
- **Equal Business Opportunity Plan (EBO Plan)** – This document is not a form. It is a statement created by the bidder/proposer on its company letter head addressing the EBO Plan requirements.

All Contract Compliance documents (Exhibits A – F and EBO Plan) are to be placed in a **separate sealed envelope** clearly marked "Contract Compliance". The EBO Plan must be submitted on company letterhead. These documents are considered part of and should be submitted with the Technical Proposal.

The following document must be completed as instructed if awarded the bid:

- **Exhibit G** - Prime Contractor's Subcontractor Utilization Report

EXHIBIT A – PROMISE OF NON-DISCRIMINATION

"Know all persons by these presents, that I/WE (_____),
Name

_____ _____
Title Firm Name

Hereinafter "Company"), in consideration of the privilege to bid on or obtain contracts funded, in whole or in part, by Fulton County, hereby consent, covenant and agree as follows:

(1) No person shall be excluded from participation in, denied the benefit of, or otherwise discriminated against on the basis of race, color, national origin or gender in connection with any bid submitted to Fulton County for the performance of any resulting there from,

(2) That it is and shall be the policy of this Company to provide equal opportunity to all businesses seeking to contract or otherwise interested in contracting with this Company without regard to the race, color, gender or national origin of the ownership of this business,

(3) That the promises of non-discrimination as made and set forth herein shall be continuing in nature and shall remain in full force and effect without interruption,

(4) That the promise of non-discrimination as made and set forth herein shall be made a part of, and incorporated by reference into, any contract or portion thereof which this Company may hereafter obtain,

(5) That the failure of this Company to satisfactorily discharge any of the promises of non-discrimination as made and set forth herein shall constitute a material breach of contract entitling the Board to declare the contract in default and to exercise any and all applicable rights and remedies, including but not limited to cancellation of the contract, termination of the contract, suspension and debarment from future contracting opportunities, and withholding and/or forfeiture of compensation due and owning on a contract; and

(6) That the bidder shall provide such information as may be required by the Director of Contract Compliance pursuant to Section 4.4 of the Fulton County Non-Discrimination in Purchasing and Contracting Ordinance.

SIGNATURE: _____

ADDRESS: _____

_____

TELEPHONE NUMBER: _____

EXHIBIT B – EMPLOYMENT REPORT

The demographic employment make-up for the bidder **must** be identified and submitted with this bid/proposal. In addition, if subcontractors will be utilized by the bidder/proposer to complete this project, then the demographic employment make-up of the subcontractor(s) must be identified and submitted with this bid.

EMPLOYEES

CATEGORY	NATIVE INDIAN		AFRICAN AMERICAN		ASIAN AMERICAN		HISPANIC AMERICAN		CACUSIAN AMERICAN		OTHER	
Male/Female	M	F	M	F	M	F	M	F	M	F	M	F
Mgmt/Official												
Professional (Arch., P.E., etc.)												
Supervisors												
Office/ Clerical												
Craftsmen												
Laborers												
Others (Specify)												
TOTALS												

FIRM'S NAME:_____

ADDRESS:_____

_____

TELEPHONE NUMBER:_____

This completed form is for (Check one) _____Bidder/Proposer _____Subcontractor

Submitted by: _____ Date Completed:_____

EXHIBIT C – SCHEDULE OF INTENDED SUBCONTRACTOR UTILIZATION

If the bidder/proposer intends to subcontract any portion of this scope of work/service(s), this form **must be** completed and **submitted with the bid/proposal.** All prime bidders/proposers **must** include Letter(s) of Intent (Exhibit D) in the bid document for all subcontractors who will be utilized under the scope of work/services.

Prime Bidder/Proposer:_____

ITB/RFP NUMBER:_____

Project Name or Description of Work/Service(s):_____

_____

_____

1. My firm, as Prime Bidder/Proposer on this scope of work/service(s) is_____is not_____a minority or female owned and controlled business. (Please indicate below the portion of work, including, percentage of bid amount that your firm will carry out directly):

   _____

   _____

   If the Prime Bidder/Proposer is a Joint Venture, please complete Exhibit F: Joint Venture Disclosure Affidavit and attach a copy of the executed Joint Venture Agreement.

2. Sub-Contractors (Including suppliers) to be utilized in the performance of this scope of work/service(s), if awarded, are:

SUBCONTRACTOR NAME:_____

ADDRESS:_____

_____

PHONE:_____

CONTACT PERSON:_____

ETHNIC GROUP*:_____COUNTY CERTIFIED**_____

WORK TO BE PERFORMED:_____

_____

DOLLAR VALUE OF WORK: $_____ PERCENTAGE VALUE:_____%

***Ethnic Groups: African American (AABE); Asian American (ABE); Hispanic American (HBE); Native American (NABE); White Female American (WFBE);**
****If yes, attach copy of recent certification letter.**

EXHIBIT C – SCHEDULE OF INTENDED SUBCONTRACTOR UTILIZATION

SUBCONTRACTOR NAME:_____
ADDRESS:_____
_____
PHONE:_____
CONTACT PERSON:_____
ETHNIC GROUP*:_____COUNTY CERTIFIED**_____
WORK TO BE PERFORMED:_____
DOLLAR VALUE OF WORK: $_____PERCENTAGE VALUE:_____%

SUBCONTRACTOR NAME:_____
ADDRESS:_____
_____
PHONE:_____
CONTACT PERSON:_____
ETHNIC GROUP*:_____COUNTY CERTIFIED**_____
WORK TO BE PERFORMED:_____
DOLLAR VALUE OF WORK: $_____PERCENTAGE VALUE:_____%

SUBCONTRACTOR NAME:_____
ADDRESS:_____
_____
PHONE:_____
CONTACT PERSON:_____
ETHNIC GROUP*:_____COUNTY CERTIFIED**_____
WORK TO BE PERFORMED:_____
DOLLAR VALUE OF WORK: $_____PERCENTAGE VALUE:_____%

SUBCONTRACTOR NAME:_____
ADDRESS:_____
_____
PHONE:_____
CONTACT PERSON:_____
ETHNIC GROUP*:_____COUNTY CERTIFIED**_____
WORK TO BE PERFORMED:_____
DOLLAR VALUE OF WORK: $_____PERCENTAGE VALUE:_____%

***Ethnic Groups: African American (AABE); Asian American (ABE); Hispanic American (HBE); Native American (NABE); White Female American (WFBE); **If yes, attach copy of recent certification letter.**

EXHIBIT C – SCHEDULE OF INTENDED SUBCONTRACTOR UTILIZATION

Total Dollar Value of Subcontractor Agreements: ($)

Total Percentage Value: (%)

CERTIFICATION: The undersigned certifies that he/she has read, understands and agrees to be bound by the Bid provisions, including the accompanying Exhibits and other terms and conditions regarding sub-contractor utilization. The undersigned further certifies that he/she is legally authorized by the Bidder to make the statement and representation in this Exhibit and that said statements and representations are true and correct to the best of his/her knowledge and belief. 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 intentions, objectives and commitments set forth herein without prior approval of the County, then in any such event the Contractor's acts or failure to act, as the case may be, shall constitute a material breach of the contract, entitling the County to terminate the Contract for default. The right to so terminate shall be in addition to, and in lieu of, any other rights and remedies the County may have for other defaults under the contract.

Signature/Title:_____

Firm or Corporate Name:_____

Address:_____

_____

Telephone: ( )_____

Fax Number: ( )_____

Email Address:_____

EXHIBIT D

LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR OR PROVIDE MATERIALS OR SERVICES

This form must be completed by ALL known subcontractors/suppliers and submitted with the bid. The Prime Contractor must submit Letters of Intent for ALL known subcontractors/suppliers at time of bid submission.

To:_____
(Name of Prime Contractor Firm)

From:_____
(Name of Subcontractor Firm)

ITB/RFP Number:_____

Project Name:_____

The undersigned is prepared to perform the following described work or provide materials or services in connection with the above project (specify in detail particular work items, materials, or services to be performed or provided):

Description of Work	Project Commence Date	Project Completion Date	Estimated Dollar Amount

_____ _____
(Prime Bidder) **(Subcontractor)**

Signature_____ **Signature**_____

Title_____ **Title**_____

Date_____ **Date**_____

EXHIBIT E – DECLARATION REGARDING SUBCONTRACTING PRACTICES

If the bidder/proposer **does not intend to subcontract** any portion of the scope of work services(s), this form **must be** completed and submitted with the bid.

_____Hereby declares that it is my/our intent to
(Bidder)

Perform 100% of the work required for_____
(IFB/RFP Number)

_____
(Description of Work)

In making this declaration, the bidder/proposer states the following:

1. That the bidder does not customarily subcontract elements of this type project, and normally performs and has the capability to perform and will perform **all elements** of the work on this project with his/her own current work forces;

2. If it should become necessary to subcontract some portion of the work at a later date, the bidder will comply with all requirements of the County's Non-Discrimination Ordinance in providing equal opportunities to all firms to subcontract the work. The determination to subcontract some portion of the work at a later date shall be made in good faith and the County reserves the right to require additional information to substantiate a bidder's decision to subcontract work following the award of the contract. Nothing contained in this provision shall be employed to circumvent the spirit and intent of the County's Non-Discrimination Ordinances;

3. The bidder will provide, upon request, information sufficient for the County to verify Item Number one.

AUTHORIZED COMPANY REPRESENTATIVE

Name:_____**Title:**_____ **Date:**_____

Signature:_____

Firm:_____

Address:_____

Phone Number:_____

Fax Number:_____

Email Address:_____

EXHIBIT F – JOINT VENTURE DISCLOSURE AFFIDAVIT

IFB No._____

Project Name_____

This form must be completed and submitted with the bid if a Joint Venture approach is to be undertaken.

The firms listed below do hereby declare that they have entered into a joint venture agreement pursuant to the above mentioned project. The information requested below is to clearly identify and explain the extent of participation of each firm in the proposed joint venture. All items must be properly addressed before the business entity can be evaluated.

1. Firms:

1) Name of Business:_____
Street Address: _____
City/State/Zip:_____
County: _____
Nature of Business:_____

2) Name of Business:_____
Street Address: _____
City/State/Zip:_____
County: _____
Nature of Business:_____

3) Name of Business:_____
Street Address: _____
City/State/Zip:_____
County: _____
Nature of Business:_____

NAME OF JOINT VENTURE (If applicable):_____

OFFICE ADDRESS:_____

PRINCIPAL OFFICE:_____

OFFICE PHONE:_____

EXHIBIT F – JOINT VENTURE DISCLOSURE AFFIDAVIT CONTINUED

Note: Attach additional sheets as required

2. Describe the capital contributions by each joint venturer and accounting thereof. Indicate the percentage make-up for each joint venture partner.

3. Describe the financial controls of the joint venture, e.g., will a separate cost center be established? Which venturer will be responsible for keeping the books? How will the expense therefore be reimbursed? What is the authority of each joint venture to commit or obligate the order?

4. Describe any Ownership, options for Ownership, or loans between the joint ventures. Identify terms thereof.

5. Describe the estimate contract cash flow for each joint venturer.

6. To what extent and by whom will the on-site work be supervised?

7. To what extent and by whom will the administrative office be supervised?

8. Which joint venturer will be responsible for material purchases including the estimated cost thereof? How will the purchase be financed?

9. Which joint venturer will provide equipment? What is the estimated cost thereof? How will the equipment be financed?

10. Describe the experience and business qualifications of each joint venturer.

11. Submit a copy of all joint venture agreements and evidence of authority to do business in the State of Georgia as well as locally, to include all necessary business licenses.

12. Percent of ownership by each joint venture in terms of profit and loss sharing:_____
_____

13. The authority of each joint venturer to commit or obligate the other:_____
_____

14. Number of personnel to be involved in project, their crafts and positions and whether they are employees of the small business enterprise, the majority firm or the joint venture:____
_____

EXHIBIT F – JOINT VENTURE DISCLOSURE AFFIDAVIT CONTINUED

15. Identification of control and participation in venture; list those individuals who are responsible for day-to-day management and policy decision-maker, including, but not limited to, those with prime responsibility for areas designated below; (use additional sheets if necessary)

Name	Race	Sex	Financial Decisions	Supervision Field Operation

In connection with any work that these firms, as a joint venture, might be authorized to perform in connection with above captioned contract, we each do hereby authorize representatives of the Fulton County Department of Purchasing and Contract Compliance and Departments of Finance, under the direction of the County Manger's Office, to examine, from time to time, the books, records and files to the extent that such relate to this County project.

WE DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THE FOREGOING DOCUMENT ARE TRUE AND CORRECT, AND THAT WE ARE AUTHORIZED, ON BEHALF OF THE ABOVE FIRMS, TO MAKE THIS AFFIDAVIT AND GRANT THE ABOVE PRIVILEGE.

FOR:_____
(Company)

Date:_____ _____
(Signature of Affiant)

_____
(Printed Name)

_____
(Company)

Date:_____ _____
(Signature of Affiant)

_____
(Printed Name)

State of_____**:**

County of_____**:**

On this _____ **day of** _____**, 20**_____**, before me, appeared**

_____**, the undersigned known to me to be the person described in the foregoing Affidavit and acknowledge that he (she) executed the same in the capacity therein stated and for the purpose therein contained.**

EXHIBIT G – PRIME CONTRACTOR/SUBCONTRACTOR UTILIZATION REPORT

This report is required to be submitted by the tenth day of each month, with a copy of your payment invoice (schedule of values/payment application) to Contract Compliance. Failure to comply may result in the County commencing proceedings to impose sanctions on the successful bidder, in addition to purchasing any other available legal remedy. Sanctions may include the suspending of any payment or part thereof, termination or cancellation of the contract, and the denial to participate in any future contracts awarded by Fulton County.

REPORTING PERIOD		PROJECT NAME:	
FROM:		PROJECT NUMBER:	
TO:		PROJECT LOCATION:	

PRIME CONTRACTOR		Contract Award Date	Contract Award Amount	Change Order Amount	Contract Period	% Complete to Date
Name:						
Address:						
Telephone #:						

AMOUNT OF REQUISITION THIS PERIOD:$_____
TOTAL AMOUNT REQUISITION TO DATE:$_____

SUBCONTRACTOR UTILIZATION (add additional rows as necessary)

Name of Sub-contractor	Description of Work	Contract Amount	Amount Paid To Date	Amount Requisition This Period	Contract Period Starting Date	Ending Date
TOTALS						

Executed By:_____ _____
(Signature) (Printed Name)

END OF SECTION

INSURANCE AND RISK MANAGEMENT PROVISIONS

It is Fulton County Government's practice to obtain Certificates of Insurance from our Contractors and Vendors. Insurance must be written by a licensed agent in a company licensed to write insurance in the State of Georgia, with an A.M. Best rating of at least A- VI, subject to final approval by Fulton County. Respondents shall submit with the bid/proposal evidence of insurability satisfactory to Fulton County Government as to form and content. Either of the following forms of evidence is acceptable:

- A letter from an insurance carrier stating that upon your firm/company being the successful Bidder/Respondent that a Certificate of Insurance shall be issued in compliance with the Insurance and Risk Management Provisions outlined below.

- A Certificate of Insurance complying with the Insurance and Risk Management Provisions outlined below (Request for Bid/Proposal number and Project Description must appear on the Certificate of Insurance).

Upon award, the Contractor/Vendor must maintain at their expense, insurance with policy limits equal to or greater than the limits described below. Any and all Insurance Coverage(s) and Bonds required under the terms and conditions of the contract shall be maintained during the entire length of the contract, including any extensions or renewals thereto, and until all work has been completed to the satisfaction of Fulton County Government.

Accordingly the Respondent shall provide a certificate evidencing the following:

1. **WORKERS COMPENSATION/EMPLOYER'S LIABILITY INSURANCE – STATUTORY (In compliance with the Georgia Workers Compensation Acts and any other State or Federal Acts or Provisions in which jurisdiction may be granted)**

Employer's Liability Insurance	BY ACCIDENT	EACH ACCIDENT	$1,000,000
Employer's Liability Insurance	BY DISEASE	POLICY LIMIT	$1,000,000
(Aggregate)	BY DISEASE	EACH EMPLOYEE	$1,000,000

2. **COMMERCIAL GENERAL LIABILITY INSURANCE (Including contractual Liability Insurance)**

Bodily Injury and Property Damage Liability	Each Occurrence	$1,000,000
(Other than Products/Completed Operations)	General Aggregate	$2,000,000
Products\Completed Operation	Aggregate Limit	$2,000,000
Personal and Advertising Injury	Limits	$1,000,000
Fire Damage	Limits	$100,000

3. **BUSINESS AUTOMOBILE LIABILITY INSURANCE**

Combined Single Limits	Each Occurrence	$1,000,000
(Including operation of non-owned, owned, and hired automobiles).		

4. **ELECTRONIC DATA PROCESSING LIABILITY**

(Required if computer contractor)	Limits	$1,000,000

5. **UMBRELLA LIABILITY**

(In excess of above noted coverages)	Each Occurrence	$10,000,000

6. **PROFESSIONAL LIABILITY**

	Each Occurrence	$5,000,000

(To be provided when the Contract includes specified Professional Services, and will be written with all Environmental/Pollution exclusions deleted).

7. ENVIRONMENTAL/POLLUTION LIABILITY

	Each Occurrence	$2,000,000

8. FIDELITY BOND

(Employee Dishonesty)	Each Occurrence	$100,000

9. BUILDERS RISK: "All-risk" form of builder's risk insurance providing coverage against loss or damage by fire or other peril on an "all-risk" form, including demolition and increased cost of construction, debris removal and the full replacement cost of the Project foundations and containing an agreed amount endorsement, and, 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	$500

Deductibles:

Flood and Earthquake	$25,000
Water Damage other than Flood	$100,000
All other Perils	$10,000

Owner and Contractor waive all rights against each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section, or other property insurance applicable to the Work, accept such rights as they have to the proceeds of such insurance.

The policy will name Fulton County, The Contractor and Subcontractors of all tiers as Insureds under the policy.

Certificates of Insurance

Certificates shall state that the policy or policies shall not expire, be cancelled or altered without at least forty-five (45) days prior written notice to Fulton County Government. Policies and Certificates of Insurance are to list Fulton County Government as an Additional Insured (except for Workers' Compensation) and shall conform to all terms and conditions (including coverage of the indemnification and hold harmless agreement) contained in the Insurance and Risk Management Provisions. The General Liability Additional Insured language should apply to on-going and completed-operations, using ISO form CG 2010 (11/85 version) or equivalent.

If Fulton County Government shall so request, the Respondent, Contractor or Vendor 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.

Such certificates and notices shall be sent to:

Fulton County Department of Purchasing and Contract Compliance
130 Peachtree Street, S.W.
Suite 1168
Atlanta, Georgia 30303-3459

It is understood that **Insurance in no way Limits the Liability of the Contractor/Vendor.**

USE OF PREMISES

Contractor shall confine its apparatus, the storage of materials and the operations of its workers to limits/requirements indicated by law, ordinance, permits and any restrictions of Fulton County Government and shall not unreasonably encumber the premises with its materials.

PROTECTION OF PROPERTY

Contractor will adequately protect its own work from damage, will protect Fulton County Government's property from damage or loss and will take all necessary precautions during the progress of the work to protect all persons and the property of others from damage or loss.

Contractor shall take all necessary precautions for the safety of employees of the work and shall comply with all applicable provisions of the Federal, State and local safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where work is being performed.

Contractor shall erect and properly maintain at all times as required by the conditions and progress of the work, all necessary safeguards for the protection of its employees, Fulton County Government employees and the public and shall post all applicable signage and other warning devices to protect against potential hazards for the work being performed.

INDEMNIFICATION AND HOLD HARMLESS AGREEMENT

Contractor/Vendor hereby agrees to release, indemnify, defend and hold harmless Fulton County, its Commissioners, officers, employees, subcontractors, successors, assigns and agents, from and against any and all losses (including death), claims, damages, liabilities, costs and expenses (including but not limited to all actions, proceedings, or investigations in respect thereof and any costs of judgments, settlements, court costs, attorney's fees or expenses, regardless of the outcome of any such action, proceeding, or investigation), caused by, relating to, based upon or arising out of any act or omission by Contractor/Vendor, its directors, officers, employees, subcontractors, successors, assigns or agents, or otherwise in connection (directly or indirectly) with its acceptance, or the performance, or nonperformance, of its obligations under these agreements. Such obligations shall not be construed to negate, abridge or otherwise reduce any other rights or obligations of indemnity which would otherwise exist as to any party or person as set forth in this paragraph.

Contractor/Vendor's obligation to protect, defend, indemnify and hold harmless, as set forth hereinabove, shall also include, but is not limited to, any matter arising out of any actual or alleged infringement of any patent, trademark, copyright, or service mark, or other actual or alleged unfair competition disparagement of product or service, or other tort or any type whatsoever, or any actual or alleged violation of trade regulations.

Contractor/Vendor further agrees to protect, defend, indemnify and hold harmless Fulton County, its Commissioners, officers, employees, subcontractors, successors, assigns and agents from and against any and all claims or liability for compensation under the Worker's Compensation Act, Disability Benefits Act, or any other employee benefits act arising out of injuries sustained by any employees of Contractor/Vendor. These indemnities shall not be limited by reason of the listing of any insurance coverage.

If the bid/quotation involves construction services, the Contractor/Vendor will be responsible fully for any and all damage to the work during the course of construction, until the point of Final acceptance by Fulton County.

FULTON COUNTY ACKNOWLEDGES THAT ALL PROVISIONS OF THIS INDEMNITY AGREEMENT MAY NOT BE APPLICABLE TO THE CONTRACTOR/VENDOR'S BUSINESS. TO THE EXTENT THAT CONTRACTOR/VENDOR MAY DEMONSTRATE SUCH NONAPPLICABILITY, FULTON COUNTY MAY NEGOTIATE AMENDMENTS TO THIS AGREEMENT AS THE CIRCUMSTANCES DICTATE.

CONTRACTOR/VENDOR ACKNOWLEDGES HAVING READ, UNDERSTANDING, AND AGREEING TO COMPLY WITH THIS INDEMNIFICATION AND HOLD HARMLESS AGREEMENT, AND THE REPRESENTATIVE OF THE CONTRACTOR/VENDOR IDENTIFIED BELOW IS AUTHORIZED TO SIGN CONTRACTS ON BEHALF OF THE RESPONDING CONTRACTOR/VENDOR.

COMPANY: _____ SIGNATURE: _____

NAME: _____ TITLE: _____

DATE: _____

OWNER - CONTRACTOR AGREEMENT

W032 FREEMANVILLE ROAD WATER MAIN

Contractor: _____ Project No. _____

Address: _____ Telephone: _____

Contact: _____ Facsimile: _____

THIS AGREEMENT is effective as of the _____ day of _____, 20 , by and between Fulton County, a political subdivision of the State of Georgia (hereinafter called the "County"), and the above named CONTRACTOR in accordance with all provisions of this Construction agreement, consisting of the following Contract Documents:

General Conditions
Special Conditions
Bid Form
Scope of Work and Technical Specifications
Drawings and Specifications
Exhibits
Purchasing Forms
Office of Contract Compliance Forms
Risk Management Insurance Provisions Forms

WITNESSETH: That the said Contractor has agreed, and by these presents does agree with the said County, for and in consideration of a Contract Price of _____($_____) and other good and valuable consideration, and under the penalty expressed on Bonds hereto attached, to furnish all equipment, tools, materials, skill, and labor of every description necessary to carry out and complete in good, firm, and substantial, and workmanlike manner, the Work specified, in strict conformity with the Drawings and the Specifications hereinafter set forth, which Drawings and Specifications together with the bid submittals made by the Contractor, General Conditions, Special Provisions, Detailed Specifications, Exhibits, and this Agreement, shall all form essential parts of this Contract. The Work covered by this Contract includes all Work indicated on Plans and Specifications and listed in the Bid entitled:

Project Number: W032

FREEMANVILLE ROAD WATER MAIN

The Contractor shall commence the Work with adequate force and equipment within 10 days from receipt of Notice to Proceed from the County, and shall complete the work within **300** calendar days from the Notice to Proceed or the date work begins, whichever comes first. The Contractor shall remain responsible for performing, in accordance with the terms of the contract, all work assigned prior to the expiration of the said calendar days allowed for completion of the work even if the work is not completed until after the expiration of such days.

For each calendar day that any work remains uncompleted after the time allowed for completion of the work, the Contractor shall pay the County the sum of $ 500.00 not as a penalty but as liquidated damages, which liquidated damages the County may deduct from any money due the contractor. At the County's convenience and not to it prejudice the County may provide written notice of the commencement of the assessment of liquidated damages.

As full compensation for the faithful performance of this Contract, the County shall pay the Contractor in accordance with the General Conditions and the prices stipulated in the Bid, hereto attached.

It is further mutually agreed between the parties hereto that if, at any time after the execution of this Agreement and the Surety Bonds hereto attached for its faithful performance, 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 his expense, within five days after receipt of notice from the County so to do, furnish an additional bond or bonds in such form and amount, and with such surety or sureties as shall be satisfactory to the County. In such event no further payment to the Contractor shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of the Work shall be furnished in manner and form satisfactory to the County.

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this contract or the prosecution of work hereunder, whether caused by the Contractor or the Contractor's agents, Servants, or employees, or by any of the Contractor's subcontractors or suppliers, and the Contractor shall indemnify and hold harmless the County, the Construction Manager, or any of their subcontractors from and against any and all loss and/or expense which they or any of them may suffer or pay as a result of claims or suits due to, because of, or arising out of any and all such injuries, deaths and/or damage, irrespective of County or Construction Manager negligence (except that no party shall be indemnified for their own sole negligence). The Contractor, if requested, shall assume and defend at the Contractor's own expense, any suit, action or other legal proceedings arising there from, and the Contractor hereby agrees to satisfy, pay, and cause to be discharged of record any judgment which may be rendered against the County and the Construction Manager arising there from.

In the event of any such loss, expense, damage, or injury, or if any claim or demand for damages as heretofore set forth is made against the County or the Construction Manager, the County may withhold from any payment due or thereafter to become due to the Contractor under the terms of this Contract, an amount sufficient in its judgment to protect and indemnify it and the Construction Manager from any and all claims, expense, loss, damages, or injury; and the County, in its discretion, may require the Contractor to furnish a surety bond satisfactory to the County providing for such protection and indemnity, which bond shall be furnished by the Contractor within five (5) days after written demand has been made therefore. The expense of said Bond shall be borne by the Contractor. **[See General Conditions for similar provisions]**

This Contract constitutes the full agreement between the parties, and the Contractor shall not sublet, assign, transfer, pledge, convey, sell or otherwise dispose of the whole or any part of this Contract or his right, title, or interest therein to any person, firm or corporation without the previous consent of the County in writing. Subject to applicable provisions of law, this Contract shall be in full force and effect as a Contract, from the date on which a fully executed and approved counterpart hereof is delivered to the Contractor and shall remain and continue in full force and effect until after the expiration of any guarantee period and the Contractor and his sureties are finally released by the County.

This agreement was approved by the Fulton County Board of Commissioner on [Insert approval date and item number].

[SIGNATURES NEXT PAGE]

IN WITNESS THEREOF, the Parties hereto have caused this Contract to be executed by their duly authorized representatives as attested and witnessed and their corporate seals to be hereunto affixed as of the day and year date first above written.

OWNER:

FULTON COUNTY, GEORGIA

John H. Eaves, Commission Chair
Board of Commissioners

ATTEST:

Mark Massey
Clerk to the Commission (Seal)

APPROVED AS TO FORM:

Office of the County Attorney

APPROVED AS TO CONTENT:

[Insert Department Head Name]
[Insert Department Head Title]

CONTRACTOR:

[Insert Company Name]

[Insert Name & Title of person authorized to sign contract]

ATTEST:

Secretary/
Assistant Secretary

(Affix Corporate Seal)

END OF SECTION

PERFORMANCE BOND

No contract with Fulton County for work to be done shall be valid for any purpose unless the Contractor provides a Performance Bond with good and sufficient surety payable to, in favor of, and for the protection of Fulton County. The Performance Bond shall be in the amount of 100% of the total contract amount, payable by the terms of the Contract, and shall be written on the following form.

Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business as a surety in Georgia.

Attestation for the corporation must be by the corporate officer; for a partnership by another partner; for an individual by a notary with the corporate seal.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS that _____
(Insert name of Contractor)
(hereinafter called the "Principal") and _____(hereinafter called the
(Insert name of Surety)
"Surety"), are held and firmly bound unto **FULTON COUNTY**, a political subdivision of the State of Georgia (hereinafter called the "Owner"), its successors and assigns, in the penal sum of _____*[100% of Contract amount]*, lawful money of the United States of America, for the payment of which the Principal and the Surety bind themselves, their administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered, or is about to enter, into a certain written contract with the Owner, dated _____, which is incorporated herein by reference in its entirety (hereinafter called the "Contract"), for construction-type services of a project known as **FREEMANVILLE ROAD WATER MAIN**, as more particularly described in the Contract (hereinafter called the "Project");

NOW, THEREFORE, the conditions of this obligation are as follows, that if the Principal shall fully and completely perform all the undertakings, covenants, terms, conditions, warranties, and guarantees contained in the Contract, including all modifications, amendments, changes, deletions, additions, and alterations thereto that may hereafter be made, then this obligation shall be void; otherwise it shall remain in full force and effect.

Whenever the Principal shall be, and declared by the Owner to be, in default under the Construction-Type Contract, the Surety shall promptly remedy the default as follows:

1. Complete the Contract in accordance with its terms and conditions; or, at the sole option of the Owner,

2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by the Surety and the Owner of the lowest responsible bidder, arrange for a contract between such bidder and Owner and make available as the work progresses (even though there should be a default or succession of defaults under the Contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the penal sum set forth in the first paragraph hereof, as may be adjusted, and the Surety shall make available and pay to the Owner the funds required by this Paragraph prior to the payment of the Owner of the balance of the contract price, or any portion thereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by the Owner to the Contractor under the Contract, and any amendments thereto, less the amount paid by the Owner to the Contractor; or, at the sole option of the Owner,

3. Allow Owner to complete the work and reimburse the Owner for all reasonable costs incurred in completing the work.

In addition to performing as required in the above paragraphs, the Surety shall indemnify and hold harmless the Owner from any and all losses, liability and damages, claims, judgments, liens, costs and fees of every description, including reasonable attorney's fees, litigation costs and expert witness fees, which the Owner may incur, sustain or suffer by reason of the failure or default on the part of the Principal in the performance of any or all of the terms, provisions, and requirements of the Contract, including any and all amendments and modifications thereto, or

incurred by the Owner in making good any such failure of performance on the part of the Principal.

The Surety shall commence performance of its obligations and undertakings under this Bond promptly and without delay, after written notice from the Owner to the Surety.

The Surety hereby waives notice of any and all modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and any other amendments in or about the Contract, and agrees that the obligations undertaken by this Bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, alterations, extensions of time, change in payment terms, and amendments.

The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment to the Contract, so as to bind the Principal and the Surety to the full and faithful performance of the Contract as so amended or modified, and so as to increase the penal sum to the adjusted Contract Price of the Contract.

No right of action shall accrue on this Bond to or for the use of any person, entity or corporation other than the Owner and any other obligee named herein, or their executors, administrators, successors or assigns.

This Bond is intended to comply with O.C.G.A. Section 36-91-1 et seq., and shall be interpreted so; as to comply with; the minimum requirements thereof. However, in the event the express language of this Bond extends protection to; the Owner beyond that contemplated by O.C.G.A. Section 36-91-1 et seq. and O.C.G.A. Section 13-10-1, as amended, or any other statutory law applicable to this Project, then the additional protection shall be enforced in favor of the Owner, whether or not such protection is found in the applicable statutes.

IN WITNESS WHEREOF the undersigned have caused this instrument to be executed and their respective corporate seals to be affixed and attested by their duly authorized representatives this _____ day of _____, _____.

_____(SEAL)
(Principal)

By:_____

Attest:

_____
Secretary

_____(SEAL)
(Surety)

By:_____

Attest:

_____
Secretary

_____

(Address of Surety's Home Office)

_____
(Resident Agent of Surety)

END OF SECTION

PAYMENT BOND

No Contract with Fulton County for work to be done shall be valid for any purpose unless the Contractor provides a Payment Bond with good and sufficient surety payable to Fulton County for the use and protection of all sub-contractors and all persons supplying labor, materials, machinery, and equipment in the prosecution of the work provided for in the Contract. The Payment Bond shall be in the amount of 100% of the total contract amount, payable by the terms of the Contract, and shall be written on the following form.

Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Georgia.

Attestation for the corporation must be by the corporate officer; for a partnership by another partner; for an individual by a notary with the corporate seal.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS that _____
(Insert name of Contractor)
(hereinafter called the "Principal") and _____(hereinafter called the
(Insert name of Surety)
"Surety"), are held and firmly bound unto **FULTON COUNTY**, a political subdivision of the State of Georgia (hereinafter called the "Owner"), its successors and assigns as obligee, in the penal sum of _____*[100% of Contract amount]*, lawful money of the United States of America, for the payment of which the Principal and the Surety bind themselves, their administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered, or is about to enter, into a certain written contract with the Owner, dated _____, which is incorporated herein by reference in its entirety (hereinafter called the "Contract"), for construction-type services of a project known as **FREEMANVILLE ROAD WATER MAIN**, as more particularly described in the Contract (hereinafter called the "Project");

NOW, THEREFORE, the condition of this obligation is such that if the Principal shall promptly make payment to all persons working on or supplying labor or materials under the Contract, and any amendments thereto, with regard to labor or materials furnished and used in the Project, and with regard to labor or materials furnished but not so used, then this obligation shall be void; but otherwise it shall remain in full force and effect.

1. A "Claimant' shall be defined herein as any subcontractor, person, party, partnership, corporation or the entity furnishing labor, services or materials used, or reasonably required for use, in the performance of the Contract, without regard to whether such labor, services or materials were sold, leased or rented, and without regard to whether such Claimant is or is not in privity of contract with the Principal or any subcontractor performing work on the Project, including, but not limited to, the following labor, services, or materials: water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. In the event a Claimant files a lien against the property of the Owner, and the Principal fails or refuses to satisfy or remove it promptly, the Surety shall satisfy or remove the lien promptly upon written notice from the Owner, either by bond or as otherwise provided in the Contract.

3. The Surety hereby waives notice of any and all modifications, omissions, additions, changes, alterations, extensions of time, changes in the payment terms, and any other amendments in or about the Contract and agrees that the obligations undertaken by this Bond shall not be impaired in any manner by reason of any such modifications, omissions, additions, changes, alterations, extensions of time, changes in payment terms, and amendments.

4. The Surety hereby agrees that this Bond shall be deemed amended automatically and immediately, without formal or separate amendments hereto, upon any amendment or modifications to the Contract, so as to bind the Principal and Surety, jointly and severally, to the full payment of any Claimant under the Contract, as amended or modified, provided only that the Surety shall not be liable for more than the penal sum of the Bond, as specified in the first paragraph hereof.

5. This Bond is made for the use and benefit of all persons, firms, and corporations who or which may furnish any materials or perform any labor for or on account of the

construction-type services to be performed or supplied under the Contract, and any amendments thereto, and they and each of them may sue hereon.

6. No action may be maintained on this Bond after one (1) year from the date the last services, labor, or materials were provided under the Contract by the Claimant prosecuting said action.

7. This Bond is intended to comply with O.C.G.A. Section 13-10-1, and shall be interpreted so as to comply with the minimum requirements thereof. However, in the event the express language of this Bond extends protection to the Owner beyond that contemplated by O.C.G.A. Section 13-10-1, or any other statutory law applicable to this Project, then the additional protection shall be enforced in favor of the Owner, whether or not such protection is found in the applicable statutes.

IN WITNESS WHEREOF the undersigned have caused this instrument to be executed and their respective corporate seals to be affixed and attested by their duly authorized representatives this _____ day of _____, _____.

_____(SEAL)
(Principal)

By:_____

Attest:

_____
Secretary

_____(SEAL)
(Surety)

By:_____

Attest:

_____
Secretary

_____

(Address of Surety's Home Office)

_____
(Resident Agent of Surety)

END OF SECTION

GENERAL CONDITIONS:

00700-1 FAMILIARITY WITH SITE

Execution of this agreement by the Contractor is a representation that the Contractor has visited the site, has become familiar with the local conditions under which the work is to be performed, and has correlated personal observations with the requirements of this agreement.

00700-2 CONTRACT DOCUMENTS

This agreement consists of Owner's invitation for bid, instructions to bidders, bid form, performance bond, payment bond, acknowledgments, the contract, general conditions, special conditions, specifications, plans, drawings, exhibits, addenda, and written change orders.

A. Notice of Award of Contract:

B. Execution of Contract Documents

Upon notification of Award of Contract, the Owner shall furnish the Contractor the conformed copies of Contract Documents for execution by the Contractor and the Contractor's surety.

Within ten (10) days after receipt the Contractor shall return all the documents properly executed by the Contractor and the Contractor's surety. Attached to each document shall be an original power-of-attorney for the person executing the bonds for the surety and certificates of insurance for the required insurance coverage.

After receipt of the documents executed by the Contractor and his surety with the power-of-attorney and certificates of insurance, the Owner shall complete the execution of the documents. Distribution of the completed documents will be made upon completion.

Should the Contractor and/or Surety fail to execute the documents within the time specified; the Owner shall have the right to proceed on the Bid Bond accompanying the bid.

If the Owner fails to execute the documents within the time limit specified, the Contractor shall have the right to withdraw the Contractor's bid without penalty.

Drawings and Specifications:

The Drawings, Specifications, Contract Documents, and all supplemental documents, are considered essential parts of the Contract, and requirements occurring in one are as binding as though occurring in all. They are intended to define, describe and provide for all Work necessary to complete the Project in an acceptable manner, ready for use, occupancy, or operation by the Owner.

In case of conflict between the Drawings and Specifications, the Specifications shall govern. Figure dimensions on Drawings shall govern over scale dimensions, and detailed Drawings shall govern over general Drawings.

In cases where products or quantities are omitted from the Specifications, the description and quantities shown on the Drawings shall govern.

Any ambiguities or need for clarification of the Drawings or Specifications shall be immediately reported to the Construction Manager in writing. Any such ambiguity or need for clarification shall be handled by the Construction Manager in writing. No clarification of the Drawings and Specifications hereunder by the Construction Manager shall entitle the Contractor to any additional monies unless a Change Order has been processed as provided by "Changes in the Contract" hereof.

Any work done by the Contractor following a discovery of such differing site condition or ambiguity or need for clarification in the Contract Drawings and Specifications prior to a written report to the Construction Manager shall not entitle the Contractor to additional monies and shall be done at the Contractor's risk.

The Construction Manager will furnish the Contractor five (5) copies of the Contract Drawings and the Specifications, one copy of which the Contractor shall have available at all times on the Project site.

00700-3 DEFINITIONS

The following terms as used in this agreement are defined as follows to the extent the definitions herein differ or conflict with those in the Instructions for Bidders, Section 00100, the definitions herein shall control.

Change Order - A written order to the Contractor issued by the County pursuant to Fulton County Policy and Procedures 800-6 for changes in the work within the general scope of the contract documents, adjustment of the contract price, extension of the contract time, or reservation of determination of a time extension.

Construction Manager or Engineer shall mean Fulton Construction Management Partners, the County authorized representative for this project.

Contractor shall mean the party of the second part to the Contract Agreement or the authorized and legal representative of such party.

Contract Documents include the Contract Agreement, Contractor's Bid (including all documentation accompanying the Bid and any post-Bid documentation required by the County prior to the Notice of Award), Bonds, all Special Conditions, General Conditions, Supplementary Conditions, Specifications, Drawings and addenda, together with written amendments, change orders, field orders and the Construction Manager's written interpretations and clarifications issued in accordance with the General Conditions on or after the date of the Contract Agreement.

Shop drawing submittals reviewed in accordance with the General Conditions, geotechnical investigations and soils report and drawings of physical conditions in or relating to existing surface structures at or contiguous to the site are not Contract Documents.

Contract Price - The sum specified in the Agreement to be paid to the Contractor in consideration of the Work.

Contract Time shall mean the number of consecutive calendar days as provided in the Contract Agreement for completion of the Work, to be computed from the date of Notice to Proceed.

Owner or County shall mean Fulton County Government, party of the first part to the Contract Agreement, or its authorized and legal representatives.

Day - A calendar day of twenty-four hours lasting from midnight of one day to midnight the next day.

Design Consultant shall mean the firm or corporation responsible for the detailed design drawings and specifications.

Director - Director of the Department of Public Works of Fulton County, Georgia or the designee thereof.

Final Completion shall mean the completion of all work as required in accordance with the terms and conditions of the contract documents.

Liquidated Damages shall mean the amount, stated in the Contract Agreement, which the Contractor agrees to pay to the Owner for each consecutive calendar day beyond the Contract time required to complete the Project or for failing to comply with associated milestones. Liquidated Damages will end upon written notification from the Owner of Final Acceptance of the Project or upon written notification of from the Owner of completion of the milestone.

Notice to Proceed - A written communication issued by the County to the Contractor authorizing it to proceed with the work, establishing the date of commencement and completion of the work, and providing other direction to the Contractor.

Products shall mean materials or equipment permanently incorporated into the work.

Program Manager - Not used in this contract. Delete all references.

Project Manual - The Contract Documents.

Provide shall mean to furnish and install.

Substantial Completion - The date certified by the Construction Manager when all or a part of the work, as established pursuant to General Condition 0700-81, is sufficiently completed in accordance with the requirements of the contract documents so that the identified portion of the work can be utilized for the purposes for which it is intended.

Work or Project - All of the services specified, indicated, shown or contemplated by the contract documents, and furnishing by the Contractor of all materials, equipment, labor, methods, processes, construction and manufacturing materials and equipment, tools, plans, supplies, power, water, transportation and other things necessary to complete such services in accordance with the contract documents to insure a functional and complete facility.

00700-4 CODES

All codes, specifications, and standards referenced in the contract documents shall be the latest editions, amendments and revisions of such referenced standards in effect as of the date of the request for proposals for this contract.

00700-5 REVIEW OF CONTRACT DOCUMENTS

Before making its proposal to the County, and continuously after the execution of the agreement, the Contractor shall carefully study and compare the contract documents and shall at once report to the Construction Manager any error, ambiguity, inconsistency or omission that may be discovered, including any requirement which may be contrary to any law, ordinance, rule, or regulation of any public authority bearing on the performance of the work. By submitting its proposal, the Contractor agrees that the contract documents, along with any supplementary written instructions issued by or through the Construction Manager that have become a part of the contract documents, appear accurate, consistent and complete insofar as can be reasonably determined. If the Contractor has timely reported in writing any error, inconsistency, or omission to the Construction Manager, has properly stopped the affected work until instructed to proceed, and has otherwise followed the instructions of the Construction Manager, the Contractor shall not be liable to the County for any damage resulting from any such error, inconsistency, or omission in the contract documents. The Contractor shall not perform any portion of the work without the contract documents, approved plans, specifications, products and data, or samples for such portion of the work. For purposes of this section “timely” is defined as the time period in which the contractor discovers, or should have discovered, the error, inconsistency, or omission, with the exercise of reasonable diligence.

00700-6 STRICT COMPLIANCE

No observation, inspection, test or approval of the County or Construction Manager shall relieve the Contractor from its obligation to perform the work in strict conformity with the contract documents except as provided in General Condition 00700-48.

00700-7 APPLICABLE LAW

All applicable State laws, County ordinances, codes, and rules and regulations of all authorities having jurisdiction over the construction of the project shall apply to this agreement. The Contractor shall comply with the requirements of any Fulton County program concerning non-discrimination in contracting.. All work performed within the right of way of the Georgia Department of Transportation and any railroad crossing shall be in accordance with Georgia Department of Transportation regulations, policies and procedures and, where applicable, those of any affected railroad. The Contractor shall comply with all laws, ordinances, codes, rules and regulations bearing on the conduct of the work as specified and the Contractor agrees to indemnify and hold harmless the County, its officers, agents and employees, as well as the Construction Manager and the Program Manager against any claim or liability arising from or

based on the violation of any law, ordinance, regulation, order or decree affecting the conduct of the work, whether occasioned by the Contractor, his agents or employees.

00700-8 PERMITS, LICENSES AND BONDS

All permits and licenses necessary for the work shall be secured and paid for by the Contractor. If any permit, license or certificate expires or is revoked, terminated, or suspended as a result of any action on the part of the Contractor, the Contractor shall not be entitled to additional compensation or time. The Contractor shall obtain and keep in force at all times performance and payment bonds payable to Fulton County in penal amounts equal to 100% of the Contract price.

00700-9 TAXES

A. The Contractor shall pay all sales, retail, occupational, service, excise, old age benefit and unemployment compensation taxes, consumer, use and other similar taxes, as well as any other taxes or duties on the materials, equipment, and labor for the work provided by the Contractor which are legally enacted by any municipal, county, state or federal authority, department or agency at the time bids are received, whether or not yet effective. The Contractor shall maintain records pertaining to such taxes and levies as well as payment thereof and shall make the same available to the County at all reasonable times for inspection and copying. The Contractor shall apply for any and all tax exemptions which may be applicable and shall timely request from the County such documents and information as may be necessary to obtain such tax exemptions. The County shall have no liability to the Contractor for payment of any tax from which it is exempt.

B. The Contractor is obligated to comply with all local and State Sales and Use Tax laws. The Contractor shall provide the Owner with documentation to assist the Owner in obtaining sales and/or use tax refunds for eligible machinery and equipment used for the primary purpose of reducing or eliminating air or water pollution as provided for in Chapter 48-8-3 (36) and (37) of the Official Code of Georgia. All taxes shall be paid by the Contractor. All refunds will accrue to the Owner.

Acceptance of the project as complete and final payment will not be made by the Owner until the Contractor has fully complied with this requirement.

00700-10 DELINQUENT CONTRACTORS

The County shall not pay any claim, debt, demand or account whatsoever to any person firm or corporation who is in arrears to the County for taxes. The County shall be entitled to a counterclaim, backcharge, and offset for any such debt in the amount of taxes in arrears, and no assignment or transfer of such debt after the taxes become due shall affect the right of the County to offset any taxes owed against said debt.

00700-11 LIEN WAIVERS

The Contractor shall furnish the County with evidence that all persons who have performed work or furnished materials pursuant to this agreement have been paid in full prior to submitting its demand for final payment pursuant to this agreement. A final affidavit, Exhibit A, must be completed, and submitted to comply with requirements of 00700-11. In the event that such evidence is not furnished, the County may retain sufficient sums necessary to meet all lawful claims of such laborers and materialmen. The County assumes no obligation nor in any way undertakes to pay such lawful claims from any funds due or that may become due to the Contractor.

00700-12 MEASUREMENT

All items of work to be paid for per unit of measurement shall be subject to inspection, measurement, and confirmation by the Construction Manager.

00700-13 ASSIGNMENT

The Contractor shall not assign any portion of this agreement or moneys due there from (include factoring of receivables) without the prior written consent of the County. The Contractor shall retain personal control and shall provide personal attention to the fulfillment of its obligations pursuant to this agreement. Any assignment without the express written consent of the County shall render this contract voidable at the sole option of the County.

00700-14 FOREIGN CONTRACTORS

In the event that the Contractor is a foreign corporation, partnership, or sole proprietorship, the Contractor hereby irrevocably appoints the Secretary of State of Georgia as its agent for service of all legal process for the purpose of this contract only.

00700-15 INDEMNIFICATION [there are two indemnification clauses, the other is in the Contract Cover Sheet]

The Contractor hereby assumes the entire responsibility and liability for any and all injury to or death of any and all persons, including the Contractor's agents, servants, and employees, and in addition thereto, for any and all damages to property caused by or resulting from or arising out of any act or omission in connection with this contract or the prosecution of work hereunder, whether caused by the Contractor or the Contractor's agents, servants, or employees, or by any of the Contractor's subcontractors or suppliers, and the Contractor shall indemnify and hold harmless the County, the Construction Manager and the Program Manager, or any of their subcontractors from and against any and all loss and/or expense which they or any of them may suffer or pay as a result of claims or suits due to, because of, or arising out of any and all such injuries, deaths and/or damage, irrespective of County or Construction Manager or Program Manager negligence (except that no party shall be indemnified for their own sole negligence). The Contractor, if requested, shall assume and defend at the Contractor's own expense, any suit, action or other legal proceedings arising there from, and the Contractor hereby agrees to satisfy, pay, and cause to be discharged of record any judgment which may be rendered against the County, the Construction Manager and the Program Manager arising there from.

In the event of any such loss, expense, damage, or injury, or if any claim or demand for damages as heretofore set forth is made against the County or the Construction Manager or the Program Manager, the County may withhold from any payment due or thereafter to become due to the Contractor under the terms of this Contract, an amount sufficient in its judgment to protect and indemnify it and the Construction Manager and the Program Manager from any and all claims, expense, loss, damages, or injury; and the County, in its discretion, may require the Contractor to furnish a surety bond satisfactory to the County providing for such protection and indemnity, which bond shall be furnished by the Contractor within five (5) days after written demand has been made therefore. The expense of said Bond shall be borne by the Contractor.

00700-16 SUPERVISION OF WORK AND COORDINATION WITH OTHERS

The Contractor shall supervise and direct the work using the Contractor's best skill and attention. The Contractor shall be solely responsible for all construction methods and procedures and shall coordinate all portions of the work pursuant to the contract subject to the overall coordination of the Construction Manager. All work pursuant to this agreement shall be performed in a skillful and workmanlike manner.

The County reserves the right to perform work related to the Project with the County's own forces and to award separate contracts in connection with other portions of the project, other work on the site under these or similar conditions of the contract, or work which has been extracted from the Contractor's work by the County.

When separate contracts are awarded for different portions of the project or other work on the site, the term "separate contractor" in the Contract Documents in each case shall mean the contractor who executes each separate County Agreement.

The Contractor shall cooperate with the County and separate contractors in arranging the introduction and storage of materials and equipment and execution of their work, and shall cooperate in coordinating connection of its work with theirs as required by the Contract Documents.

If any part of the Contractor's Work depends for proper execution or results upon the work of the County or any separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Construction Manager any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results **within fourteen (14) days** of discovery of such discrepancy or defect. Failure of the Contractor to so report in writing shall constitute an acceptance of the County's or separate contractor's work as fit and proper to receive the Work, except as to any defects which may subsequently become apparent in such work by others.

Any costs caused by defective or untimely work shall be borne by the party responsible therefore.

Should the Contractor wrongfully cause damage to the work or property of the County or to other work or property on the site, including the work of separate contractors, the Contractor shall promptly remedy such damage at the Contractor's expense.

Should the Contractor be caused damage by any other contractor on the Project, by reason of such other contractor's failure to perform properly his contract with the County, no action shall lie against the County or the Construction Manager inasmuch as the parties to this agreement are the only beneficiaries hereof and there are no third party beneficiaries and neither the County nor the Construction Manager shall have liabilities therefore, but the Contractor may assert his claim for damages solely against such other contractor. The Contractor shall not be excused from performance of the contract by reason of any dispute as to damages with any other contractor or third party.

Where the Work of this Contract shall be performed concurrently in the same areas as other construction work, the Contractor shall coordinate with the Construction Manager and the separate contractors in establishing mutually acceptable schedules and procedures that shall permit all jobs to proceed with minimum interference.

If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up, the County may clean up and charge the cost thereof to the Contractor or contractors responsible therefore as the County shall determine to be just.

00700-17 ADMINISTRATION OF CONTRACT

The Program Manager and the Construction Manager shall provide administration services as hereinafter described.

For the administration of this Contract, the Construction Manager shall serve as the County's primary representative during design and construction and until final payment to the Contractor is due. The Construction Manager shall advise and consult with the County and the Program Manager. The primary point of contact for the Contractor shall be the Construction Manager. All correspondence from the Contractor to the County shall be forwarded through the Construction Manager. Likewise, all correspondence and instructions to the Contractor shall be forwarded through the Construction Manager.

The Construction Manager will determine in general that the construction is being performed in accordance with design and engineering requirements, and will endeavor to guard the County against defects and deficiencies in the Work.

The Construction Manager will not be responsible for or have control or charge of construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, nor will it be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Construction Manager will not be responsible for or have control or charge over the acts or omissions of the Contractor, its

engineers, consultants, subcontractors, or any of their agents or employees, or any other persons performing the Work.

Based on the Construction Manager's observations regarding the Contractor's Applications for Payment, the Construction Manager shall determine the amounts owing to the Contractor, in accordance with the payment terms of the Contract, and shall issue Certificates for Payment in such amount to the County.

The Construction Manager shall render interpretations necessary for the proper execution or progress of the Work. Either party to the Contract may make written requests to the Construction Manager for such interpretations.

Claims, disputes and other matters in question between the Contractor and the County relating to the progress of the Work or the interpretation of the Contract Documents shall be referred to the Construction Manager for interpretation.

All interpretations of the Construction Manager shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in writing or in graphic form.

Except as otherwise provided in this Contract, the Construction Manager shall issue a decision on any disagreement concerning a question of fact arising under this Contract. The Construction Manager shall reduce the decision to writing and mail or otherwise furnish a copy thereof to the Contractor. The decision of the Construction Manager shall be final and conclusive unless, within thirty (30) days from the date of receipt of such copy, the Contractor files a written appeal with the Director of Public Works and mails or otherwise furnishes the Construction Manager a copy of such appeal. The decision of the Director of Public Works or the Director's duly authorized representative for the determination of such appeals shall be final and conclusive. Such final decision shall not be pleaded in any suit involving a question of fact arising under this Contract, provided such is not fraudulent, capricious, arbitrary, so grossly erroneous as necessarily implying bad faith, or is not supported by substantial evidence. In connection with any appeal proceeding under this Article, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of Contractor's appeal. Pending any final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract as directed by the Construction Manager.

The Construction Manager shall have authority to reject Work which does not conform to the Contract Documents. Whenever, in the Construction Manager's opinion, it is considered necessary or advisable for the implementation of the intent of the Contract Documents, the County shall have authority to require special inspection or testing of the Work whether or not such Work be then fabricated, installed or completed. The Contractor shall pay for such special inspection or testing if the Work so inspected or tested is found not to comply with the requirements of the contract; the County shall pay for special inspection and testing if the Work is found to comply with the contract. Neither the Construction Manager's authority to act under this Subparagraph, nor any decision made by the Construction Manager in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the Construction Manager to the Contractor, any subcontractor, any of their agents or employees, or any other person performing any of the Work.

The Contractor shall provide such shop drawings, product data, and samples as may be required by the Construction Manager and/or as required by these Contract Documents.

The Construction Manager shall conduct inspections to determine Substantial Completion and Final Completion, and shall receive and forward to the County for review written warranties and related documents required by the Contract Documents and assembled by the Contractor. The Construction Manager shall approve and issue Certificates for Payment upon compliance with Substantial and Final Completion requirements indicated in General Conditions 00700-81, 00700-82, 00700-84 and 00700-85 of this Agreement.

Except as provided in General Condition 00700-48, the Contractor shall not be relieved from the Contractor's obligations to perform the work in accordance with the contract documents by the

activities or duties of the County or any of its officers, employees, or agents, including inspections, tests or approvals, required or performed pursuant to this agreement.

00700-18 RESPONSIBILITY FOR ACTS OF EMPLOYEES

The Contractor shall employ only competent and skilled personnel. The Contractor shall, upon demand from the Construction Manager, immediately remove any superintendent, foreman or workman whom the Construction Manager may consider incompetent or undesirable.

The Contractor shall be responsible to the County for the acts and omissions of the Contractor's employees, subcontractors, and agents as well as any other persons performing work pursuant to this agreement for the Contractor.

00700-19 LABOR, MATERIALS, SUPPLIES, AND EQUIPMENT

Unless otherwise provided in this agreement, the Contractor shall make all arrangements with necessary support agencies and utility companies, provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the execution and completion of the work.

00700-20 DISCIPLINE ON WORK SITE

The Contractor shall enforce strict discipline and good order among its employees and subcontractors at all times during the performance of the work, to include compliance with the Fulton County Drug Free Work Place Policy. The Contractor shall not employ any subcontractor who is not skilled in the task assigned to it. The Construction Manager may, by written notice, require the Contractor to remove from the work any subcontractor or employee deemed by the Construction Manager to be incompetent.

00700-21 HOURS OF OPERATION

All work at the construction site shall be performed during regular business hours of the Fulton County government, except upon the Construction Manager's prior written consent to other work hours. It is further understood that the Contractor's construction schedule is based on a normal 40 hours, five day work week, less Fulton County-recognized holidays. Contractors work schedule shall not violate Fulton County Noise Ordinance by working hours inconsistent with the Fulton County Noise Ordinance. The County's current noise ordinance or other applicable ordinance shall govern. If the Contractor desires to work in excess of this limit, the Contractor shall submit a written request to the Construction Manager, a minimum of five days prior to the desired work date. The Contractor shall be responsible for any additional expenses incurred by the Owner as a result of the extended work hours, including resident inspection overtime. The cost associated with resident inspector overtime shall be deducted form the Contractor monthly payment request.

00700-22 FAMILIARITY WITH WORK CONDITIONS

The Contractor shall take all steps necessary to ascertain the nature and location of the work and the general and local conditions which may affect the work or the cost thereof. The Contractor's failure to fully acquaint itself with the conditions which may affect the work, including, but not limited to conditions relating to transportation, handling, storage of materials, availability of utilities, labor, water, roads, weather, topographic and subsurface conditions, other separate contracts to be entered into by the County relating to the project which may affect the work of the Contractor, applicable provisions of law, and the character and availability of equipment and facilities necessary prior to and during the performance of the work shall not relieve the Contractor of its responsibilities pursuant to this agreement and shall not constitute a basis for an equitable adjustment of the contract terms. The County reserves the right to perform with its own forces or to contract with other entities for other portions of the project work, in which case the Contractor's responsibility to assure its familiarity with work conditions hereunder shall include all coordination with such other contractors and the County necessary to insure that there is no interference between contractors as will delay or hinder any contractor in its prosecution of work on the project. The County assumes no responsibility for any understandings or representations

concerning conditions of the work made by any of its officers, agents, or employees prior to the execution of this agreement.

00700-23 RIGHT OF ENTRY

The County reserves the right to enter the site of the work by such agent, including the Construction Manager, as it may elect for the purpose of inspecting the work or installing such collateral work as the County may desire. The Contractor shall provide safe facilities for such access so that the County and its agents may perform their functions.

00700-24 NOTICES

Any notice, order, instruction, claim or other written communication required pursuant to this agreement shall be deemed to have been delivered or received as follows:

Upon personal delivery to the Contractor, its authorized representative, or the Construction Manager on behalf of the County. Personal delivery may be accomplished by in-person hand delivery or bona fide overnight express service.

Three days after depositing in the United States mail a certified letter addressed to the Contractor or the Construction Manager for the County. For purposes of mailed notices, the County's mailing address shall be 141 Pryor Street, 6th Floor, Atlanta, Georgia 30303, or as the County shall have otherwise notified the Contractor. The Contractor's mailing address shall be the address stated in its proposal or as it shall have most recently notified the Construction Manager in writing.

00700-25 SAFETY

A. SAFETY, HEALTH AND LOSS PREVENTION

The Contractor shall be responsible for implementing a comprehensive project-specific safety, health and loss prevention program and employee substance abuse program for this project. All Sub-Contractors must either implement their own program or follow the Contractor's safety, health and loss prevention program and employee substance abuse program.

The Contractor's safety, health and loss prevention program and employee substance abuse program must meet or exceed all governmental regulations (OSHA, EPA, DOT, State, local), and any other specific Fulton County requirements

B. COUNTY'S SAFETY, HEALTH, AND LOSS PREVENTION PROCESS GUIDELINES AND REQUIREMENTS

The County and its agents reserve the right, but assume no duty, to establish and enforce safety, health, and loss prevention guidelines and to make the appropriate changes in the guidelines, for the protection of persons and property and to review the efficiency of all protective measures taken by the Contractor. The Contractor shall comply with all safety, health, and loss prevention process guidelines and requirements and changes made by the County or its agent(s). The issuance of any such guidelines or changes by the County or its agent(s) shall not relieve the Contractor of its duties and responsibilities under this Agreement, and the County or its agent(s) shall not thereby assume, nor be deemed to have assumed, any such duties or responsibilities of the Contractor.

C. COMPLIANCE OF WORK, EQUIPMENT, AND PROCEDURES WITH ALL APPLICABLE LAWS and REGULATIONS

All Work, whether performed by the Contractor or its Sub-Contractors of any tier, or anyone directly or indirectly employed by any of them, and all equipment, appliances, machinery, materials, tools and like items incorporated or used in the Work, shall be in compliance with and conform to:

1. All applicable laws, ordinances, rules, regulations and orders of any public, quasi-public or other governmental authority relating to the safety of persons and their protection against injury, specifically including, but in no event limited to, the Federal Occupational Safety and Health Act of 1970, as amended, and all rules and regulations now or hereafter in effect pursuant to said Act.

2. All rules, regulations, and requirements of the County or its agent(s) and its insurance carriers relating there to. In the event of a conflict or differing requirements the more stringent shall govern.

D. PROTECTION OF THE WORK

1. The Contractor shall, throughout the performance of the Work, maintain adequate and continuous protection of all Work and temporary facilities against loss or damage from whatever cause, shall protect the property of the County and third parties from loss or damage from whatever cause arising out of the performance of the Work, and shall comply with the requirements of the County or its agent(s) and its insurance carriers, and with all applicable laws, codes, rules and regulations, (as same may be amended) with respect to the prevention of loss or damage to property as a result of fire or other hazards.

2. The County or its agent(s) may, but shall not be required to, make periodic inspections of the Project work area. In such event, however, the Contractor shall not be relieved of its aforesaid responsibilities and the County or its agent(s) shall not assume, nor shall it be deemed to have assumed, any responsibility otherwise imposed upon the assurance of Contractor by this Agreement.

E. SAFETY EQUIPMENT

1. The Contractor shall provide to each worker on the Project work area the proper safety equipment for the duties being performed by that worker and will not permit any worker on the Project work area who fails or refuses to use the same. The County or its agent shall have the right, but not the obligation, to order the removal of a worker from the Project work site for his/her failure to comply with safe practices or substance abuse policies.

F. EMERGENCIES

1. In any emergency affecting the safety of persons or property, or in the event of a claimed violation of any federal or state safety or health law or regulation, arising out of or in any way connected with the Work or its performance, the Contractor shall act immediately to prevent threatened damage, injury or loss and to remedy said violation. Failing such action the County or its agent(s) may immediately take whatever steps it deems necessary including, but not limited to, suspending the Work as provided in this Agreement.

2. The County or its agent(s) may offset any and all costs or expenses of whatever nature, including attorneys' fees, paid or incurred by the County or its agent(s) (whether such fees are for in-house counsel or counsel retained by the County or its agent), in taking the steps authorized by Section 00700-25(G) (1) above against any sums then or thereafter due to the Contractor. The Contractor shall defend, indemnify and hold the County, its officers, agents, and employees harmless against any and all costs or expenses caused by or arising from the exercise by the County of its authority to act in an emergency as set out herein. If the Contractor shall be entitled to any additional compensation or extension of time change order on account of emergency work not due to the fault or neglect of the Contractor or its Sub-Contractors, such additional compensation or extension of time shall be determined in accordance with General Condition 00700-52 and General Condition 00700-87 of this Agreement.

G. SUSPENSION OF THE WORK

1. Should, in the judgment of the County or its agent(s), the Contractor or any Sub-Contractor fail to provide a safe and healthy work place, the County or its agent shall have the right, but not the obligation, to suspend work in the unsafe areas until deficiencies are corrected. All costs of any nature (including, without limitation, overtime pay, liquidated damages or other costs arising out of delays) resulting from the suspension, by whomsoever incurred, shall be borne by the Contractor.

2. Should the Contractor or any Sub-Contractor fail to provide a safe and healthy work place after being formally notified in writing by the County or its agents of such non-compliance, the contract may be terminated following the termination provision of the contract.

H. CONTRACTOR'S INDEMNITY OF THE COUNTY FOR CONTRACTOR'S NON-COMPLIANCE WITH SAFETY PROGRAM

1. The Contractor recognizes that it has sole responsibility to assure its Safety Program is implemented and to assure its construction services are safely provided. The Contractor shall indemnify, defend and hold the County and its agents harmless, from and against any and all liability (whether public or private), penalties (contractual or otherwise), losses, damages, costs, attorneys' fees, expenses, causes of action, claims or judgments resulting, either in whole or in part, from any failure of the Contractor, its Sub-Contractors of any tier or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, to comply with the safety requirements of the contract. The Contractor shall not be relieved of its responsibilities under the safety requirements of the Contract should the County or its agent(s) act or fail to act pursuant to its rights hereunder.

2. The Contractor shall not raise as a defense to its obligation to indemnify under this Subparagraph I any failure of those indemnified hereunder to assure Contractor operates safely, it being understood and agreed that no such failure shall relieve the Contractor from its obligation to assure safe operations or from its obligation to so indemnify. The Contractor also hereby waives any rights it may have to seek contribution, either directly or indirectly, from those indemnified hereunder.

3. In any and all claims against those indemnified hereunder by any employee of the Contractor, any Sub-Contractor of any tier or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Subparagraph I shall not be limited in any way as to the amount or type of damages, compensation or benefits payable by or for the Contractor or any Sub-Contractor of any tier under any workers' compensation act, disability benefit or other employee benefit acts.

00700-26 BLASTING AND EXCAVATION

The Contractor acknowledges that it is fully aware of the contents and requirements of O.C.G.A. § 25-9-1 through 25-9-12 concerning blasting and excavation near underground gas pipes and facilities and shall fully comply therewith.

00700-27 HIGH VOLTAGE LINES

The Contractor acknowledges that it is fully aware of the contents and requirements O.C.G.A. § 46-3-30 through 46-3-39 concerning safeguards against contact with high voltage lines, and the Contractor shall fully comply with said provisions.

00700-28 SCAFFOLDING AND STAGING

The Contractor acknowledges that it is the person responsible for employing and directing others to perform labor within the meaning of O.C.G.A. § 34-1-1 and agrees to comply with said provisions.

00700-29 CLEAN-UP

The Contractor shall clean up all refuse, rubbish, scrap materials, and debris caused by its operations to the end that the site of the work shall present a neat, orderly and workmanlike appearance at all times.

00700-30 PROTECTION OF WORK

The Contractor shall be responsible for maintenance and protection of the work, which shall include any County-furnished supplies, material, equipment, until final completion of this agreement and acceptance of the work as defined herein. Any portion of the work suffering injury, damage or loss shall be considered defective and shall be corrected or replaced by the Contractor without additional cost to the County.

00700-31 REJECTED WORK

The Contractor shall promptly remove from the project all work rejected by the Construction Manager for failure to comply with the contract documents and the Contractor shall promptly replace and re-execute the work in accordance with the contract documents and without expense to the County. The Contractor shall also bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

00700-32 DEFECTIVE WORK

If the Contractor defaults or neglects to carry out any portion of the work in accordance with the contract documents, and fails within three days after receipt of written notice from the Construction Manager to commence and continue correction of such default or neglect with diligence and promptness, the County may, after three days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy the County may have, make good such deficiencies and complete all or any portion of any work through such means as the County may select, including the use of a separate Contractor. In such case, an appropriate change order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies. In the event the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the County on demand.

The County may, at its option, accept defective or nonconforming work instead of requiring its removal or correction. In such case, a change order shall be issued reducing the price due the contractor to the extent appropriate and equitable. Such contract price adjustment shall be effected whether or not final payment has been made.

00700-33 WARRANTY OF NEW MATERIALS

The Contractor warrants to the County that all materials and equipment furnished under this contract will be new unless otherwise specified, and the Contractor further warrants that all work will be of good quality, free from faults and defects, and in conformance with the contract documents. The warranty set forth in this paragraph shall survive final acceptance of the work.

00700-34 CONTRACTOR'S WARRANTY OF THE WORK

If within one year after the date of issuance of the certificate of final payment pursuant to General Condition 84, or within such longer period of time as may be prescribed by law or by the term of any applicable special warranty required by the contract documents, any of the work is found to be defective or not in accordance with the contract documents, the Contractor shall correct such work promptly after receipt of written notice from the Construction Manager to do so. This obligation shall survive both final payment for the work and termination of the contract.

00700-35 ASSIGNMENT OF MANUFACTURERS' WARRANTIES

Without limiting the responsibility or liability of the Contractor pursuant to this agreement, all warranties given by manufacturers on materials or equipment incorporated in the work are hereby assigned by the Contractor to the County. If requested, the Contractor shall execute formal assignments of said manufacturer's warranties to the County. All such warranties shall be directly enforceable by the County.

00700-36 WARRANTIES IMPLIED BY LAW

The warranties contained in this agreement, as well as those warranties implied by law, shall be deemed cumulative and shall not be deemed alternative or exclusive. No one or more of the warranties contained herein shall be deemed to alter or limit any other.

00700-37 STOP WORK ORDERS

In the event that the Contractor fails to correct defective work as required by the contract documents or fails to carry out the work in accordance with contract documents, the Construction Manager, in writing, may order the Contractor to stop work until the cause for such order has been eliminated. This right of the County to stop work shall not give rise to any duty on the part of the County or the Construction Manager to execute this right for the benefit of the Contractor or for any other person or entity.

00700-38 TERMINATION FOR CAUSE

If the Contractor is adjudged bankrupt, makes a general assignment for the benefit of creditors, suffers the appointment of a receiver on account of its insolvency, fails to supply sufficient properly skilled workers or materials, fails to make prompt payment to subcontractors or materialmen, disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, fails to diligently prosecute the work, or is otherwise guilty of a material violation of this agreement and fails within seven days after receipt of written notice to commence and continue correction of such default, neglect, or violation with diligence and promptness, the County may, after seven days following receipt by the Contractor of an additional written notice and without prejudice to any other remedy the County may have, terminate the employment of the Contractor and take possession of the site as well as all materials, equipment, tools, construction equipment and machinery thereon. The County may finish the work by whatever methods the County deems expedient. In such case, the Contractor shall not be entitled to receive any further payment until the work is completed. If the unpaid balance of the contract price exceeds the cost of completing the work, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the County on demand. This obligation for payment shall survive the termination of the contract. Termination of this agreement pursuant to this paragraph may result in disqualification of the Contractor from bidding on future County contracts.

00700-39 TERMINATION FOR CONVENIENCE

The County may, at any time upon written notice to the Contractor, terminate the whole or any portion of the work for the convenience of the County. The effective data of the terminations shall be provided in the written notice. Said termination shall be without prejudice to any right or remedy of the County provided herein. In addition, in the event this agreement has been terminated due to the default of the Contractor, and if it is later determined that the Contractor was not in default pursuant to the provisions of this agreement at the time of termination, then such termination shall be considered a termination for convenience pursuant to this paragraph.

00700-40 TERMINATION FOR CONVENIENCE - PAYMENT

If the Contract is terminated for convenience by the Owner as provided in this article, Contractor will be paid compensation for those services actually performed as approved by the Owner or his representative. Partially completed tasks will be compensated for based on a signed statement of completion prepared by the Project Manager and submitted to the Contractor which shall itemize each task element and briefly state what work has been completed and what work remains to be

done. Contractor shall also be paid for reasonable costs for the orderly filing and closing of the project.

00700-41 TERMINATION FOR CONVENIENCE - PAYMENT LIMITATIONS

Except for normal spoilage, and except to the extent that the County shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the Contractor the fair value, as determined by the Construction Manager, of property which is destroyed, lost, stolen or damaged so as to become undeliverable to the County or to another buyer.

00700-42 COST TO CURE

If the County terminates for cause the whole or any part of the work pursuant to this agreement, then the County may procure upon such terms and in such manner as the Construction Manager may deem appropriate, supplies or services similar to those so terminated, and the Contractor shall be liable to the County for any excess costs for such similar supplies or services. The Contractor shall continue the performance of this agreement to the extent not terminated hereunder.

00700-43 ATTORNEY'S FEES

Should the Contractor default pursuant to any of the provisions of this agreement, the Contractor and its surety shall pay to the County such reasonable attorney's fees as the County may expend as a result thereof and all costs, expenses, and filing fees incidental thereto.

00700-44 CONTRACTOR'S RESPONSIBILITIES UPON TERMINATION

After receipt of a notice of termination from the County, and except as otherwise directed by the Construction Manager, the Contractor shall:

1. Stop work under the contract on the date and to the extent specified in the notice of termination;
2. Place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of such portion of the work under the agreement as is not terminated;
3. Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the notice of termination;
4. Assign to the County in the manner, at the times, and to the extent directed by the Construction Manager, all of the rights, title and interest of the Contractor under the orders and subcontracts so terminated, in which case the County shall have the right, at its discretion, to settle or pay any and all claims arising out of the termination of such orders or subcontracts;
5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts with the approval or ratification of the Construction Manager, to the extent the Construction Manager may require, which approval or ratification shall be final for all purposes;
6. Transfer title and deliver to the entity or entities designated by the Construction Manager, in the manner, at the times, and to the extent, if any, directed by the Construction Manager, and to the extent specifically produced or specifically acquired by the Contractor for the performance of such portion of the work as has been terminated:
    a. The fabricated or un-fabricated parts, work, and progress, partially completed supplies, and equipment, materials, parts, tools, dyes, jigs, and other fixtures, completed work, supplies, and other material produced as a part of or acquired in connection with the performance of the work terminated by the notice of termination; and

b. The completed or partially completed plans, drawings, information, and other property to the work.

7. Use its best efforts to sell in the manner, at the times, to the extent, and at the prices directed or authorized by the Construction Manager, any property described in Section 6 of this paragraph, provided, however, that the Contractor shall not be required to extend credit to any buyer and further provided that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the County to the Contractor pursuant to this agreement.

8. Complete performance of such part of the work as shall not have been terminated by the notice of termination; and

9. Take such action as may be necessary, or as the Construction Manager may direct, for the protection and preservation of the property related to the agreement which is in the possession of the Contractor and in which the County has or may acquire an interest.

00700-45 RECORDS

The Contractor shall preserve and make available to the County all of its records, books, documents and other evidence bearing on the costs and expenses of the Contractor and any subcontractor pursuant to this agreement upon three days advance notice to the Contractor.

00700-46 DEDUCTIONS

In arriving at any amount due the Contractor pursuant to the terms of this agreement, there shall be deducted all liquidated damages, advance payments made to the Contractor applicable to the termination portion of the contract, the amount of any claim which the County may have against the Contractor, the amount determined

By the Construction Manager to be necessary to protect the County against loss due to outstanding potential liens or claims, and the agreed price of any materials acquired or sold by the Contractor and not otherwise recovered by or credited to the County.

00700-47 REIMBURSEMENT OF THE COUNTY

In the event of termination, the Contractor shall refund to the County any amount paid by the County to the Contractor in excess of the costs properly reimbursable to the Contractor.

00700-48 SUSPENSION, INTERRUPTION, DELAY, DAMAGES

The Contractor shall be entitled to only those damages and that relief from termination by the County as specifically set forth in this agreement. The Construction Manager may issue a written order requiring the Contractor to suspend, delay or interrupt all or any part of the work for such period of time as the County may determine to be appropriate for the convenience of the County. If the performance of the work is interrupted for an unreasonable period of time by an act of the County or any of its officers, agents, employees, contractors, or consultants in the administration of this agreement, an equitable adjustment shall be made for any increase in the Contractor's costs of performance and any increase in the time required for performance of the work necessarily caused by the unreasonable suspension, delay, or interruption. Any equitable adjustment shall be reduced to writing and shall constitute a modification to this agreement. In no event, however, shall an equitable adjustment be made to the extent that performance of this agreement would have been suspended, delayed or interrupted by any other cause, including the fault or negligence of the Contractor. No claim for an equitable adjustment pursuant to this paragraph shall be permitted before the Contractor shall have notified the Construction Manager in writing of the act or failure to act involved, and no claim shall be allowed unless asserted in writing to the Construction Manager within ten days after the termination of such suspension, delay or interruption.

00700-49 COMMENCEMENT AND DURATION OF WORK

The County may issue a Notice to Proceed at any time within 120 days following execution of the contract by the County. The Contractor shall commence work pursuant to this agreement within ten days of mailing or delivery of written notice to proceed. The Contractor shall diligently prosecute the work to completion within the time specified therefore in the Agreement. The capacity of the Contractor's construction and manufacturing equipment and plan, sequence and method of operation and forces employed, including management and supervisory personnel, shall be such as to insure completion of the work within the time specified in the Agreement. The Contractor and County hereby agree that the contract time for completion of the work is reasonable taking into consideration the average climatic conditions prevailing in the locality of the work and anticipated work schedules of other contractors whose activities are in conjunction with or may affect the work under this contract.

00700-50 TIME OF THE ESSENCE

All time limits stated in this agreement are of the essence of this contract.

00700-51 IMPACT DAMAGES

Except as specifically provided pursuant to a stop work order or change order, the Contractor shall not be entitled to payment or compensation of any kind from the County for direct or indirect or impact damages including, but not limited to, costs of acceleration arising because of delay, disruption, interference or hindrance from any cause whatsoever whether such delay, disruption, interference or hindrance is reasonable or unreasonable, foreseeable or unforeseeable, or avoidable, provided, however, that this provision shall not preclude the recovery of damages by the Contractor for hindrances or delays due solely to fraud or bad faith on the part of the County, its agents, or employees. The Contractor shall be entitled only to extensions in the time required for performance of the work as specifically provided in the contract.

00700-52 DELAY

The Contractor may be entitled to an extension of the contract time, but not an increase in the contract price or damages, for delays arising from unforeseeable causes beyond the control and without the fault or negligence of the Contractor or its subcontractors for labor strikes, acts of God, acts of the public enemy, acts of the state, federal or local government in its sovereign capacity, by acts of another separate contractor, or by an act or neglect of the County.

00700-53 INCLEMENT WEATHER

The Contractor shall not be entitled to an extension of the contract time due to normal inclement weather. Unless the Contractor can substantiate to the satisfaction of the Construction Manager that there was greater than normal inclement weather and that such greater than normal inclement weather actually delayed the work, the Contractor shall not be entitled to an extension of time therefore. The following shall be considered the normal inclement weather days for each month listed, and extensions of time shall be granted in increments of not less than one half day only for inclement weather in excess of the days set out.

January	10 days
February	10 days
March	7 days
April	6 days
May	4 days
June	3 days
July	4 days
August	2 days
September	2 days
October	3 days

November	6 days
December	9 days

00700-54 DELAY - NOTICE AND CLAIM

The Contractor shall not receive an extension of time unless a Notice of Delay is filed with the Construction Manager within ten days of the first instance of such delay, disruption, interference or hindrance and a written Statement of the Claim is filed with the Construction Manager within 20 days of the first such instance. In the event that the Contractor fails to comply with this provision, it waives any claim which it may have for an extension of time pursuant to this agreement.

00700-55 STATEMENT OF CLAIM - CONTENTS

The Statement of Claim referenced in Article 00700-54 shall include specific information concerning the nature of the delay, the date of commencement of the delay, the construction activities affected by the delay, the person or organization responsible for the delay, the anticipated extent of the delay, and any recommended action to avoid or minimize the delay.

00700-56 WORK BEHIND SCHEDULE, REMEDY BY CONTRACTOR

If the work actually in place falls behind the currently updated and approved schedule, and it becomes apparent from the current schedule that work will not be completed within the contract time, the Contractor agrees that it will, as necessary, or as directed by the Construction Manager, take action at no additional cost to the County to improve the progress of the work, including increasing manpower, increasing the number of working hours per shift or shifts per working day, increasing the amount of equipment at the site, and any other measure reasonably required to complete the work in a timely fashion.

00700-57 DILIGENCE

The Contractor's failure to substantially comply with the requirements of the preceding paragraph may be grounds for determination by the County that the Contractor is failing to prosecute the work with such diligence as will insure its completion within the time specified. In such event, the County shall have the right to furnish, from its own forces or by contract, such additional labor and materials as may be required to comply with the schedule after 48 hours written notice to the Contractor, and the Contractor shall be liable for such costs incurred by the County.

00700-58 SET-OFFS

Any monies due to the Contractor pursuant to the preceding paragraph of this agreement may be deducted by the County against monies due from the County to the Contractor.

00700-59 REMEDIES CUMULATIVE

The remedies of the County under Articles 00700-56, 00700-57, and 00700-58 are in addition to and without prejudice to all of the rights and remedies of the County at law, in equity, or contained in this agreement.

00700-60 TITLE TO MATERIALS

No materials or supplies shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sales contract or other agreement by which any interest is retained by the seller. The Contractor hereby warrants that it has good and marketable title to all materials and supplies used by it in the work, and the Contractor further warrants that all materials and supplies shall be free from all liens, claims, or encumbrances at the time of incorporation in the work.

00700-61 INSPECTION OF MATERIALS

All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with accepted standards and in accordance with the

requirements of the contract documents. Additional tests performed after the rejection of materials or equipment shall be at the Contractor's expense.

00700-62 CONSTRUCTION MANAGER'S PRESENCE DURING TESTING

All tests performed by the Contractor shall be witnessed by the Construction Manager unless the requirement therefore is waived in writing. The Construction Manager may perform additional tests on materials previously tested by the Contractor, and the Contractor shall furnish samples for this purpose as requested.

00700-63 MATERIALS INCORPORATED IN WORK

The Contractor shall furnish all materials and equipment to be incorporated in the work. All such materials or equipment shall be new and of the highest quality available. Manufactured materials and equipment shall be obtained from sources which are currently manufacturing such materials, except as otherwise specifically approved by the Construction Manager.

00700-64 STORAGE OF MATERIALS

Materials and equipment to be incorporated in the work shall be stored in such a manner as to preserve their quality and fitness for the work and to facilitate inspection.

00700-65 PAYROLL REPORTS

The Contractor may be required to furnish payroll reports to the Construction Manager as required by the Owner Controlled Insurance Program.

00700-66 CONTRACTORS' REPRESENTATIVE

Before beginning work, the Contractor shall notify the Construction Manager in writing of one person within its organization who shall have complete authority to supervise the work, receive orders from the Construction Manager, and represent the Contractor in all matters arising pursuant to this agreement. The Contractor shall not remove its representative without first designating in writing a new representative. The Contractor's representative shall normally be present at or about the site of work while the work is in progress. When neither the Contractor nor its representative is present at the work site, the superintendent, foreman, or other of the Contractor' employee in charge of the work shall be an authorized representative of the Contractor.

00700-67 SPECIALTY SUB-CONTRACTORS

The Contractor may utilize the services of specialty subcontractors on those parts of the project which, under normal contracting practices, are performed by specialty subcontractors. The Contractor shall not award more than seventy-five percent of the work to subcontractors.

00700-68 INSPECTION BY THE CONSTRUCTION MANAGER

All work pursuant to this agreement shall be subject to inspection by the Construction Manager for conformity with contract drawings and specifications. The Contractor shall give the Construction Manager reasonable advance notice of operations requiring special inspection of a portion of the work.

00700-69 WORK COVERED PRIOR TO CONSTRUCTION MANAGER'S INSPECTION

In the event that work is covered or completed without the approval of the Construction Manager, and such approval is required by the specifications or required in advance by the Construction Manager, the Contractor shall bear all costs involved in inspection notwithstanding conformance of such portion of the work to the contract drawings and specifications.

00700-70 SCHEDULING OF THE WORK

The work of this contract shall be planned, scheduled, executed, and reported as required by the Contract Documents.00700-71 PROGRESS ESTIMATES

The Contractor shall prepare a written report for the Construction Manager's approval, on County forms, of the total value of work performed and materials and equipment obtained to the date of submission. Such a report must accompany each request for a progress payment and is subject to review and approval by the Construction Manager. Approval of a progress estimate or tendering of a progress payment shall not be considered an approval or acceptance of any work performed, and all estimates and payments shall be subject to correction in subsequent estimates. Progress payments shall be made for all completed activities and for materials suitably stored on-site.

00700-72 PROGRESS PAYMENTS

Upon approval of each monthly estimate of work performed and materials furnished, the Construction Manager shall approve payment to the Contractor for the estimated value of such work, materials, and equipment, less the amount of all prior payments and any liquidated damages. The Contractor will be paid 100 percent, less retainage, of the cost of materials received and properly stored on-site but not incorporated into the work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale to establish the County's title to such materials or equipment. The Contractor's request for payment shall provide sufficient detail as to the work completed or materials purchased for which payment is requested to permit meaningful review by the Construction Manager.

00700-73 TIME OF PAYMENT

The Contractor will be paid within 45 days following receipt of an approved Progress Estimate. The Contractor expressly agrees that the payment provisions within this Contract shall supersede the rates of interest, payment periods, and contract and subcontract terms provided for under the Georgia Prompt Pay Act, O.C.G.A. §13-11-1 et seq., and that the rates of interest, payment periods, and contract and subcontract terms provided for under the Prompt Pay Act shall have no application to this Contract. The County shall not be liable for any late payment interest or penalty.

00700-74 RETAINAGE

The County shall retain from each progress payment ten percent of the estimated value of the work performed until the progress payments, including retainage, total 50 percent of the contract price. If a contract includes two or more projects or assignments that have been separately priced and have separate budgets, and the performances of such projects or assignments are not related to or dependent upon the performance of any other, the 50 per cent limit shall be based upon the price for each individual project or assignment. Thereafter, no further retainage shall be withheld so long as the Contractor is making satisfactory progress to insure completion of the work within the time specified therefore. The County may reinstate the ten percent retainage in the event the Construction Manager determines that the Contractor is not making satisfactory progress to complete the work within the time specified in this agreement or in the event that the Construction Manager provides a specific cause for such withholding. The County may also withhold retainage upon substantial completion of the work as provided in O.C.G.A. §13-10-81(c). Interest may be paid upon the retainage in accordance with Georgia law.

00700-75 PAYMENT OF SUBCONTRACTORS

The Contractor shall promptly pay each subcontractor upon the receipt of payment from the County. Such payment shall be made from the amount paid to the Contractor pursuant to the subcontractor's work. The Contractor shall also maintain the records of the percentage retained from payments to the Contractor pursuant to such subcontractor's work. The Contractor shall procure agreements from each subcontractor requiring each subcontractor to pay their subcontractors, agents and employees in a similar manner. The County reserves the right to inquire of any subcontractor, supplier, materialmen, or subconsultant, the status of any

indebtedness of the Contractor. The County further reserves the right to require the Contractor to designate on each instrument of payment exceeding $400.00 to subcontractors, suppliers, materialmen, and subconsultants that such payment is on account of the work under this Contract.

00700-76 COUNTY'S RESPONSIBILITIES TO SUBCONTRACTORS

Neither the County nor the Construction Manager shall have any obligation to pay any subcontractor except as otherwise required by law.

00700-77 PROGRESS PAYMENTS - ACCEPTANCE OF WORK

Certification of progress payments, as well as the actual payment thereof, shall not constitute the County's acceptance of work performed pursuant to this agreement.

00700-78 PAYMENTS IN TRUST

All sums paid to the Contractor pursuant to this agreement are hereby declared to constitute trust funds in the hands of the contractor to be applied first to the payment of claims of subcontractors, laborers, and suppliers arising out of the work, to claims for utilities furnished and taxes imposed, and to the payment of premiums on surety and other bonds and on insurance for any other application.

00700-79 JOINT PAYMENTS

The County reserves the right to issue any progress payment or final payment by check jointly to the Contractor and any subcontractor or supplier.

00700-80 RIGHT TO WITHHOLD PAYMENT

The Construction Manager may decline to approve payment and may withhold payment in whole or in part to the extent reasonable and necessary to protect the County against loss due to defective work, probable or actual third party claims, the Contractor's failure to pay subcontractors or materialmen, reasonable evidence that the work will not be completed within the contract time or contract price or damage to the County or any other contractor on the project.

00700-81 CERTIFICATE OF SUBSTANTIAL COMPLETION

Upon the Contractor's submission of a request for a certificate of Substantial Completion, the Construction Manager shall inspect the work and determine whether the work is Substantially Complete. If the work is Substantially Complete, the Construction Manager shall issue a certificate of Substantial Completion of the work which shall establish the date of Substantial Completion, shall state the responsibilities of the County and the Contractor for security, maintenance, heat, utilities, damage to the work and insurance, and shall fix the time within which the Contractor shall complete the items submitted by the Contractor as requiring correction or further work. The certificate of substantial completion of the work shall be submitted to the County and the Contractor for their written acceptance of the responsibilities assigned to them pursuant to such certificate.

If in the sole opinion of the Construction Manager, the work is not substantially complete, the Construction Manager shall notify the Contractor of such, in writing, and outline requirements to be met to achieve Substantial Completion.

00700-82 PAYMENT UPON SUBSTANTIAL COMPLETION

Upon Substantial Completion of the work and upon application by the Contractor and approval by the Construction Manager, the County shall make payment reflecting 100% work completed, less value of work remaining as determined by Construction Manager and any authorized retainage.

00700-83 COMMENCEMENT OF WARRANTIES

Warranties required by this agreement shall commence on the date of final completion of the project as determined under Article 00700-84 unless otherwise provided in the certificate of Substantial Completion.

00700-84 FINAL PAYMENT - WAIVER OF CLAIMS, DISPUTE OF FINAL PAYMENT

The acceptance of the Substantial Completion payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of application for payment at Substantial Completion and except for the retainage sums due at final acceptance. Following the Construction Manager's issuance of the certificate of Substantial Completion and the Contractor's completion of the work pursuant to this agreement, the Contractor shall forward to the Construction Manager a written notice that the work is ready for final inspection and acceptance. If after inspection the Construction Manager certifies that the work is complete and issues written notification of such to the Contractor, the Contractor shall forward to the Construction Manager a final application for payment. The Construction Manager shall issue a certificate for payment, which shall approve final payment to the Contractor and shall establish the date of final completion.

In the event the Contractor timely disputes the amount of the final payment, the amount due the Contractor shall be deemed by the Contractor and the County to be an unliquidated sum and no interest shall accrue or be payable on the sum finally determined to be due to the Contractor for any period prior to final determination of such sum, whether such determination be by agreement of the Contractor and the County or by final judgment of the proper court in the event of litigation between the County and the Contractor. The Contractor specifically waives and renounces any and all rights it may have under O.C.G.A. §13-6-13 and agrees that in the event suit is brought by the Contractor against the County for any sum claimed by the Contractor under the Contract or for any extra or additional work, no interest shall be awarded on any sum found to be due from the County to the Contractor in the final judgment entered in such suit. All final judgments shall draw interest at the legal rate, as specified by law.

00700-85 DOCUMENTATION OF COMPLETION OF WORK

Neither the final payment nor the remaining retainage shall become due until the Contractor submits the following documents to the Construction Manager:

a. An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work have been paid other otherwise satisfied;

b. The surety's consent to final payment; and

c. Any other data reasonably required by the County or Construction Manager establishing payment or satisfaction of all such obligations, including releases, waivers of liens, and documents of satisfaction of debts.

In the event that a subcontractor refuses to furnish a release or waiver as required by the County or Construction Manager, the Contractor may furnish a bond satisfactory to the County to indemnify the County against such loss. In the event that any lien or indebtedness remains unsatisfied after all payments are made, the contractor shall refund to the County all moneys that the County may become compelled to pay in discharging such lien or other indebtedness, including all costs and reasonable attorney's fees.

00700-86 GOVERNING LAW

Each and every provision of this agreement shall be construed in accordance with and governed by Georgia law. The parties acknowledge that this contract is executed in Fulton County, Georgia and that the contract is to be performed in Fulton County, Georgia. Each party hereby consents to the Fulton Superior Court's sole jurisdiction over any dispute which arises as a result of the execution or performance of this agreement, and each party hereby waives any and all objections to venue in the Fulton Superior Court.

00700-87 CHANGES IN THE WORK

A. CHANGE ORDERS

1. A Change Order is a written order to the Contractor signed to show the approval and the authorization of the County, issued after execution of the Contract,

authorizing a change in the Work and/or an adjustment in the Contract Sum or the Contract Time. Change Orders shall be written using forms designated by the County with Contractor providing supporting documentation as required by the Construction Manager. The Contract Sum and the Contract Time may be changed only by approved Change Order pursuant to Fulton County Procedure 800-6. The amount payable by the Change Order is payment in full for all direct and indirect costs incurred and related to the work under said Change Order, including but not limited to delays, imports, acceleration, disruption and extended overhead. A Change Order signed by the Contractor indicates the Contractor's agreement therewith, including the adjustment in either or both of the Contract Sum or the Contract Time.

2. The County, without invalidating the Contract, may order changes in the Work within the general scope of the Contract as defined herein. The time allowed for performance of the work and the contract price to be paid to the Contractor may be adjusted accordingly.

3. The cost or credit to the County resulting from a change in the Work shall be determined in one or more of the following ways:

   a. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

   b. By unit prices stated in the Contract Documents or subsequently agreed upon;

   c. By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

   d. By the method provided in Subparagraph A4 below.

4. If none of the methods set forth in Subparagraphs 3a, 3b, or 3c above is agreed upon, the Contractor, provided a written order signed by the Construction Manager is received, shall promptly proceed with the Work involved. The cost of such Work shall then be determined by the Construction Manager on basis of the reasonable expenditures and savings of those performing the Work attributable to the change. The cost of the change shall include only the items listed in Subparagraph 5a below, and in the case of either a decrease or an increase in the Contract Sum, an allowance for overhead and profit in accordance with the schedules set forth in Subparagraphs 5b and 6 below shall be applied to the cost or credit.

   a. In such case, and also under Subparagraph 3a above, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting of all actual costs expended, together with appropriate supporting data for inclusion in a Change Order.

   b. All hourly rate charges shall b submitted to the Construction Manager for prior review and approval. All hourly rate charges shall be properly supported as required by the Construction Manager with certified payrolls, or their acceptable equivalent. When authorized to proceed for a given change and actual expenditures have been made prior to execution of a Change Order for the entire change, such actual expenditures may be summarized monthly, and if approved, incorporated into a Change Order. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase or decrease, if any, with respect to that change.

5. In Subparagraphs 3 and 4 above, the items included in "Cost and "Overhead" shall be based on the following schedule:

a. Unless otherwise provided in the Contract Documents, "Cost" shall be limited to the following: cost of materials incorporated into the Work, including sales tax and cost of delivery; cost of direct labor (labor cost may include a pro rata share of foreman's account of the change) including social security, old age and unemployment insurance, and fringe benefits required by agreement or custom; workers' or workmen's compensation insurance; rental value of equipment and machinery; costs for preparing Shop Drawings.

b. Unless otherwise provided in the Contract Documents, "Overhead" shall include the following: bond and insurance premiums including increase and decreases from change in the Work, supervision, superintendence, construction parking, wages of timekeepers, watchmen and clerks, small tools, consumable supplies, expendables, incidentals, general office expense, the cost of additional reproduction for the Contractor's subcontractors beyond that agreed upon in the Contract Documents, construction parking, any additional costs of craft supervision by the Contractor's or subcontractors' superintendents, and overhead charges which would be customary and expended regardless of the change in the Work due to other overlapping activities which are included as part of the original Contract, and all other expenses not included in "Cost" above.

c. In the event that a change is issued by the County which would require the expenditure of substantial amounts of special supervision (beyond the foreman level) by the Contractor, the Contractor may, at the sole direction of the Construction Manager, be allowed to incorporate these charges into the agreement cost for the change.

6. In Subparagraphs 3 and 4 above, the allowance for overhead and profit combined, included in the total cost or credit to the County, shall be based on the following schedule:

a. For the Contractor, for any work performed by the Contractor's own forces, <u>ten (10) percent</u> of the cost.

b. For the Contractor, for any work performed by a Contractor's subcontractor, five (5) percent of the amount due the subcontractor.

c. For each subcontractor or sub-subcontractor involved, for any work performed by that subcontractor's or sub-subcontractor's own forces, ten (10) percent of the cost.

d. For each subcontractor, for work performed by a sub-subcontractor, five (5) percent of the amount due to the sub-subcontractor.

e. Cost to which overhead and profit is to be applied shall be determined in accordance with Subparagraph 5 above unless modified otherwise.

7. In order to facilitate checking of quotations for extras or credits, all proposals or bids, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs, including labor cost, materials and subcontracts. Labor and materials shall be itemized in the manner defined in Subparagraph 4 above. Where major cost items are subcontracts, they shall be itemized also. <u>In no case shall a change be approved without such itemization</u>.

8. No payment shall be made for any changes to the contract that are not included in a fully executed Change Order.

B. CONCEALED, UNKNOWN AND DIFFERING CONDITIONS

1. Should concealed conditions be encountered in the performance of the Work below the surface of the ground, or should concealed or unknown conditions in an existing structure be at variance with the conditions indicated by the Contract Documents, or should unknown physical conditions below the surface of the ground or concealed or unknown conditions in an existing structure of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract, be encountered, the Contract Sum and Contract Time shall be equitably adjusted by Change Order upon request by either party made **within twenty (20) days after the first observance** of the conditions. No such request for equitable adjustment shall be valid unless the Contractor complies with this (20) days notice and Subparagraph C.1. below.

2. The Contractor shall promptly, and before such conditions are disturbed, notify the Construction Manager in writing of any claim of concealed, unknown or differing conditions pursuant to this paragraph. The Construction Manager shall authorize the Engineer to investigate the conditions, and if it is found that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work under this Contract, whether or not changed as a result of such conditions, an equitable adjustment shall be recommended to the Construction Manager.

3. No claim of the Contractor under this clause shall be allowed unless the Contractor has given the notice required in (a) above, prior to disturbing the condition.

4. No claim by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this Contract.

5. Any materially differing site condition as between what is shown on the Drawings and Specifications and actually found on site shall be immediately reported to the Construction Manager in writing prior to the commencement of Work at the site. Failure of the Contractor to notify the Construction Manager in writing of the differing site condition prior to performance of Work at the site shall constitute a waiver of any claim for additional monies. Any Change Order necessitated by the differing site condition shall be processed as provided under "Changes in the Contract".

C. REQUESTS FOR ADDITIONAL COST

1. If the Contractor wishes to request an increase in the Contract Sum, the Contractor shall give the Construction Manager written notice thereof within twenty (20) days after the occurrence of the event, or identification of the conditions, giving rise to such request. This notice shall be give by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed in accordance with Article 00700-25 and Subparagraph A.4 above. No such request shall be valid unless so made within the twenty (20) days specified above. If the County and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined by the Construction Manager. Any change in the Contract Sum resulting from such claim shall be documented by Change Order.

2. If the Contractor claims that addition cost is involved because of, but not limited to (1) any written interpretation pursuant to General Condition 00700-17 of this Agreement, (2) any order by the County to stop the Work pursuant to Articles 00700-25 and 00700-37 of this Agreement where the Contractor was not at fault, or any such order by the Construction Manager as the County’s agent, or (3) any written order for a minor change in the Work issued pursuant to Paragraph D

below, the Contractor shall submit a request for an increase in the Contract Sum as provided in Subparagraph C.1 above. No such claim shall be valid unless the Contractor complies with Subparagraph C.1 above and approved by the County pursuant to Change Order Policy 800-6.

D. MINOR CHANGES IN THE WORK

The Construction Manager may order minor changes in the Work not involving an adjustment in the Contract Price, extension of the time allowed for performance of the work and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by a written Change Directive issued by the Construction Manager, and shall be binding on the County and the Contractor. The Contractor shall carry out such written orders promptly.

E. BONDS

If any change order results in an increase in the contract price, the contractor shall increase the penal sum of the performance and payment bonds to equal the increased price.

00700-88 DISAGREEMENT WITH ORDERS FOR CHANGE

Contractor's written acceptance of a Change Order or other order for changes shall constitute his final and binding agreement to the provisions thereof and a waiver of all claims in connection therewith, whether direct or consequential in nature. Should Contractor disagree with any order for changes, he may submit a notice of potential claim to the Construction Manager, at such time as the order is set forth in the form of a Change Order. Disagreement with the provisions of an order for changes shall not relieve Contractor of his obligation under Article 00700-87 of this Agreement.

00700-89 NO WAIVER OF REMEDIES

Exercise by the County of any remedy is not exclusive of any other remedy available to County and shall not constitute a waiver of any such other remedies. Failure of the County to exercise any remedy, including breach of contract remedies, shall not preclude the County from exercising such remedies in similar circumstances in the future.

00700-90 LAND AND RIGHTS-OF-WAY

The owner will provide, as indicated in the Contract Documents and prior to Notice to Proceed, the lands upon which the work is to be done, right-of-way for access thereto, and such other lands which are designated for the use of the Contractor. The Contractor shall confine the Contractor’s work and all associated activities to the easements and other areas designated for the Contractor’s use. The Contractor shall comply with any limits on construction methods and practices which may be required by easement agreements. If, due to some unforeseen reason, the necessary easements are not obtained, the Contractor shall receive an equitable extension of contract time dependent upon the effect on the critical path of the project schedule or the County may terminate the Contract for its convenience.

00700-91 COORDINATION WITH STATE DEPARTMENT OF TRANSPORTATION

No clearing or grading shall be completed by Contractor within the State Department of Transportation (DOT) area under construction. The Contractor must coordinate his construction scheduling with DOT.

If the Contractor begins work before DOT’s completion date, he must obtain the approval of DOT before starting work in the area. The state DOT has the right to stop the Contractor’s work the DOT area.

The Contractor shall receive no additional compensation or damages resulting from delay or work stoppage from DOT actions or scheduling.

Contractor shall obtain DOT drawings of the DOT, project area for verification of road geometry, storm drains, etc. from Georgia Department of Transportation or Fulton County. The Contractor is responsible for obtaining any pertinent DOT revisions.

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EXHIBIT A

FINAL AFFIDAVIT

TO FULTON COUNTY, GEORGIA

I, _____, hereby certify that all suppliers of materials, equipment and service, subcontractors, mechanic, and laborers employed by _____ or any of his subcontractors in connection with the design and/or construction of _____ at Fulton County have been paid and satisfied in full as of _____, 200___, and that there are no outstanding obligations or claims of any kind for the payment of which Fulton County on the above-named project might be liable, or subject to, in any lawful proceeding at law or in equity.

_____

Signature

_____

Title

Personally appeared before me this _____ day of _____, 200_____. _____, who under Oath deposes and says that he is _____of the firm of _____, that he has read the above statement and that to the best of his knowledge and belief same is an exact true statement.

_____

Notary Public

_____

My Commission expires

END OF SECTION

Part 1 General

1.01 Description

A. The Work to be performed under this Contract shall consist of furnishing all labor, materials, tools, equipment and incidentals and performing all Work required to construct complete in place and ready to operate approximately 28,000 linear feet (LF) of 24-inch diameter ductile iron pipe water main.

B. All Work described above shall be performed as shown on the Drawings and as specified.

1.02 Project Location

The project is located along Providence and Freemanville Roads, in North Fulton County.

1.03 Quantities

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

1.04 Easement Stipulations

The Contractor is responsible for adhering to the agreements made in the easements included in Appendix A. All structures (fences, columns, etc.) are included, as is normal permanent grade restoration and grassing. Landscaping (trees and shrubs) will be handled separately, either by the County or at the County's discretion, by use of the Future Easement Stipulations allowance item. All requirements for easements that are not included in Appendix A will be handled through the allowance.

END OF SECTION

Part 1 General

1.01 Partial Occupancy By Owner

Whenever, in the opinion of the Engineer, any section or portion of the Work or any structure is in suitable condition, it may be put into use upon the written order of the Engineer and such usage will not be held in any way as an acceptance of said Work or structure, or any part thereof, or as a waiver of any of the provisions of these Specifications and the Contract. Pending final completion and acceptance of the Work, all necessary repairs and replacements, due to defective materials or workmanship or operations of the Contractor, for any section of the Work so put into use shall be performed by the Contractor at Contractor's own expense.

END OF SECTION

Part 1 General

1.01 Scope

A. The Bid lists each item of the Project for which payment will be made. No payment will be made for any items other than those listed in the Bid.

B. Required items of work and incidentals necessary for the satisfactory completion of the work which are not specifically listed in the Bid, and which are not specified in this Section to be measured or to be included in one of the items listed in the Bid, shall be considered as incidental to the work. All costs thereof, including Contractor's overhead costs and profit, shall be considered as included in the lump sum or unit prices bid for the various Bid items. The Contractor shall prepare the Bid accordingly.

C. Work includes furnishing all plant, labor, equipment, tools and materials, which are not furnished by the Owner and performing all operations required to complete the work satisfactorily, in place, as specified and as indicated on the Drawings.

1.02 Descriptions

A. Measurement of an item of work will be by the unit indicated in the Bid.

B. Final payment quantities shall be determined from the record drawings. The record drawing lengths, dimensions, quantities, etc. shall be determined by a survey after the completion of all required work. Said survey shall conform to Section 01720 of these Specifications. The precision of final payment quantities shall match the precision shown for that item in the Bid.

C. Payment will include all necessary and incidental related work not specified to be included in any other item of work listed in the Bid.

D. Unless otherwise stated in individual sections of the Specifications or in the Bid, no separate payment will be made for any item of work, materials, parts, equipment, supplies or related items required to perform and complete the work. The costs for all such items required shall be included in the price bid for item of which it is a part.

E. Payment will be made by extending unit prices multiplied by quantities provided and then summing the extended prices to reflect actual work. Such price and payment shall constitute full compensation to the Contractor for furnishing all plant, labor, equipment, tools and materials not furnished by the Owner and for performing all operations required to provide to the Owner the entire Project, complete in place, as specified and as indicated on the Drawings.

F. “Products” shall mean materials or equipment permanently incorporated into the work.

1.03 Erosion and Sedimentation Control

A. General

1. No separate payment shall be made for temporary and/or permanent erosion and sedimentation controls, except as noted below. All other

temporary and/or permanent erosion and sedimentation control costs shall be included in the unit price bid for the item to which it pertains.

2. No payment will be made for any portion of the Project for which temporary erosion and sedimentation controls are not properly maintained.

3. Quantities for payment shall be based upon actual quantity constructed by the Contractor.

B. Construction Exits: All costs for construction exits, including installation, maintenance, repair, and removal, shall be included in the unit price bid for CONSTRUCTION EXITS.

C. Hay Bale Sediment Barriers: All costs for hay bale sediment barriers, including installation, maintenance, repair and removal, shall be included in the unit price bid for HAY BALE SEDIMENT BARRIERS.

D. Reinforced Silt Fence: All costs for Type C silt fence, where ordered by the Engineer, including installation, maintenance, repair, replacement, and removal, shall be included in the unit price bid for REINFORCED (TYPE C) SILT FENCE.

E. Stone Check Dams: All costs for stone check dams, including stone, necessary earthwork, periodic maintenance and repair, and removal of sediment and stone following establishment of permanent erosion control measures shall be included in the unit price bid for STONE CHECK DAMS.

F. Inlet Sediment Traps: All costs for temporary sediment traps (silt box), including installation, maintenance, repair and removal, shall be included in the unit price bid for INLET SEDIMENT TRAPS.

G. Temporary Stream Crossing: All costs for constructing temporary stream crossings, including temporary culverts, stone, necessary earthwork, periodic maintenance and repair, and removal of sediment and all materials placed by the Contractor, following the end of the usefulness of the temporary crossing, shall be included in the unit price bid for TEMPORARY STREAM CROSSING.

H. Permanent Grassing

1. The unit price bid for PERMANENT GRASSING shall be for one time clean up of the pipeline route and grassing, whether permanent, temporary, or both. Any other costs for labor, materials, and equipment for clean up and grassing of the disturbed area shall be included in the unit price bid for the item to which it pertains.

2. No additional payment will be made for those lengths of pipeline where the Contractor must reseed due to inadequate watering and maintenance; loss of seeds caused by site erosion, e.g., wind and rain; inadequate germination of the seeds; inadequate coverage/density; providing permanent species at the appropriate season after temporary grassing has been performed.

3. No additional payment will be made for providing a temporary species of grass where the seasonal limitations do not allow for the proper germination of a permanent species of grass. Any additional cost

anticipated for sowing a temporary species shall be included in the price bid for the item to which it pertains.

4. Measurement for payment for PERMANENT GRASSING shall be along the centerline of the pipeline, through fittings and valves. The length of pipe constructed under pavement, through casings and free bores, and the length of pipe associated with water services, shall not be included in quantities for payment for PERMANENT GRASSING.

5. No payment will be made for any length of grassing where the clean up and grassing operation is not maintained within 2,000 feet of the pipe laying operation.

I. Sodding: Sodding, where ordered by the Engineer, shall be provided at the unit price bid for SODDING. Payment for SODDING shall be in addition to the payment made for PERMANENT GRASSING.

1.04 Water Mains and Accessories

A. Existing Utilities and Obstructions

1. No separate payment will be made for any delay or extra cost encountered by the Contractor due to protection, avoidance or relocation of existing utilities, mains or services shown or not shown on the Drawings.

2. Horizontal Conflict: No separate payment shall be made for changing the horizontal alignment of the water main to avoid a horizontal conflict, except where authorized for additional fittings and/or pipe.

3. Vertical Conflict: Where authorized by the Engineer, payment for additional depth of cut required to avoid vertical conflicts shall be made at the unit prices bid for ADDITIONAL DEPTH OF COVER for water mains. The unit prices bid shall include all costs associated with the additional depth of cover. No additional payment shall be made for additional depth of cover which is less than two feet.

B. Construction Along Highways, Streets and Roadways: No separate payment shall be made for traffic control or maintaining highways, streets, roadways and driveways.

C. Location and Grade

1. No separate payment shall be made for any surveying performed by the Contractor to establish or confirm the location of reference points, right of ways or easements or location and grade of the water main.

2. The CONSTRUCTION SURVEYING cash allowance is solely for the use of the Engineer for verification of the Contractor's reference points, centerlines and work performed. The presence of this cash allowance in no way relieves the Contractor of the responsibility of installing reference points, centerlines, temporary bench marks or verifying that the work has been performed accurately.

D. Laying and Jointing Pipe and Accessories

1. Payment for WATER MAINS shall be made for the quantity provided. Measurement for payment shall be made along the centerline of the pipe, through valves and fittings. No payment shall be made for sections of pipe which are not installed.

2. Fittings

   a. The unit price bid for FITTINGS shall include the costs of fittings and joint accessories and the cost of all related blocking. Weight of fittings for payment for diameters less than 54 inches shall be AWWA C 110 standard weight for all mechanical joint ends and shall not include the weight of bolts, glands, or cement lining.

   b. Anchor couplings will be paid for at the unit price bid for FITTINGS and shall not be included in the quantities measured for WATER MAIN. Weight for payment of anchor couplings will be determined from the manufacturer's standard weight, including the coupling and rotating split gland.

3. Valves

   a. The unit price bid for VALVES shall include the cost of providing the valve, extension stem, valve box, valve marker, and all related items.

   b. The cost for providing the flange by restrained joint adapters shall be included in the unit price bid for valves.

4. Fire Hydrants

   a. Payment for fire hydrants shall be made at the unit price bid for FIRE HYDRANT ASSEMBLY. Payment for the associated valve and valve box will be made at the price bid for VALVES.

   b. Payment for hydrant lead piping will be made at the unit price bid for 6-INCH HYDRANT LEAD.

   c. Fittings for blow off and air release hydrant leads will be paid for at the unit price bid for fittings.

5. Air Valves

   The unit price bid for AIR VALVES shall include the cost of providing the air valve, gate valve, and fittings, precast concrete product, frame and cover, crushed stone and all related items as shown on the Drawings.

6. No additional payment will be made for replacement of defective materials.

7. No separate payment shall be made for polyethylene encasement.

8. No separate payment shall be made for electronic marker balls.

9. No payment will be made for cutting and beveling pipe.

10. Solid Sleeves: Payment for solid sleeves shown on the Drawings and specified shall be made at the unit price bid for FITTINGS. No payment shall be made for fittings provided due to the Contractor's sequence of construction, layout problems or repairs, except for those shown on the Drawings or specified.

E. Connections to Existing Water Mains

1. The unit price bid for TAPPING SLEEVE AND VALVE shall include the cost of providing the sleeve, valve, extension stem, valve box, valve marker and related blocking and accessories.

2. The cost of all labor necessary for making the connection to existing pipelines with solid sleeves or a manner other than tapping sleeves and valves shall be included in the unit price bid for SOLID SLEEVE.

F. Thrust Restraint

1. No separate payment will be made for retainer glands or harnessing.

2. Payment for thrust collars shall be made at the unit price bid for THRUST COLLAR. The unit price shall include all associated costs including concrete, reinforcing, forming and weld on collar.

3. Payment for concrete blocking shall be made at the unit price bid for THRUST BLOCKING. Quantities shall be determined from the dimensions shown on the Drawings for each size and type of fitting for which blocking is installed. The Contractor shall bear all costs for quantities in excess of the scheduled amount, as may be required due to over excavation or other reasons.

G. Easement Stipulations

All costs related to the implementation of the existing easement and permit stipulations shall be included in the unit price bid for the item to which it pertains, with the exception of shrub and tree related landscaping, as detailed in Section 01010. Existing easements are included in Appendix A. The cash allowance for FUTURE EASEMENT STIPULATIONS will be used for easements that have not been obtained at the time of bidding and are not included in the Appendix, or as directed by the Engineer.

H. Clean-Up, Testing, and Disinfection

1. Payment for clean-up, testing, and disinfection shall be made at the unit price provided in the Bid for CLEANUP, TESTING, AND DISINFECTION. Any other cost for labor, material and equipment required shall be included in the unit price bid for WATER MAINS.

2. No payment for clean up, testing and disinfection shall be made for any length of line unless pressure testing and disinfection has been successfully completed, main has been disinfected and clean up has been completed to the satisfaction of the Engineer for that segment of line for which payment is being requested.

1.05 Bore and Jack Crossings

A. Payment for STEEL CASING shall be made only at the completion of all work specified for the casing installation. No partial payment shall be made for the construction of the casing.

B. Casing pipe may be included in Partial Payment Requests as stored materials, if the casing pipe is stored at the Project site. Casing pipe which has been properly installed, but has not yet been paid for as installed casing, may also be included as stored materials.

C. In the event that rock is encountered during the installation of the pipe casing which, in the opinion of the Engineer, cannot be removed through the casing then the Engineer may authorize the Contractor to complete the crossing by another method via a change order.

D. No additional payment shall be made for rock excavation through the casing or through the tunnel.

E. Payment for pipe in casing shall be made only at the completion of all work specified for the pipe installation. Payment for pipe in the casing shall be made only at the unit price bid for DIP IN CASING.

1.06 Removing and Replacing Pavement

A. Payment for removing and replacing pavement will be made as a separate item based on the measured quantity replaced at the unit price in the Bid. The unit price bid shall include all costs associated with removing and replacing pavement, including providing select backfill if necessary, traffic control and temporary measures for maintaining traffic.

B. Payment shall be made only for that length for which the pipeline is constructed underneath the pavement as shown on the Drawings.

C. Payment for soils testing shall be made from the SOILS, CONCRETE, AND ASPHALT TESTING cash allowance. No payment shall be made for tests that fail to verify required results.

D. No additional payment will be made for removing and replacing damaged adjacent pavement.

E. Costs for removal and replacement of sidewalks and curb and gutter shall be included in the unit price bid for the item to which it pertains.

1.07 Miscellaneous Concrete

All costs for concrete encasement of water mains shall be included in the unit price bid for CONCRETE PIPE ENCASEMENT.

1.08 Clearing and Grubbing

A. No separate payment shall be made for clearing and grubbing.

B. The cost of moving and reestablishing landscape features, including labor and materials, shall be included in the unit price bid for the item to which it pertains.

1.09 Trench Excavation and Backfill

A. No separate or additional payment will be made for any special or unique method, means, techniques or equipment necessary for the Contractor's compliance with these Specifications, regulatory requirements, permits, laws or regulations which govern this Project.

B. Trench Excavation: No separate payment will be made for trench excavation. All costs shall be included in the unit price bid for the item to which it pertains at the appropriate depth.

C. Sheeting, Bracing and Shoring: No separate payment will be made for providing any sheeting, bracing and shoring.

D. Trench Rock Excavation

1. Rock excavation shall be paid for as an extra in addition to payment for pipe excavation provided for elsewhere in these Specifications. Payment will be made for the measured quantity of rock excavated, at the sum of the unit prices for Trench Rock BASE COST and Trench Rock PREMIUM COST.

2. The unit price for Trench Rock BASE COST is for the normally anticipated cost of rock excavation, the cost of additional bedding and backfill material as specified and all costs incidental thereto.

3. The unit price bid for Trench Rock PREMIUM COST shall be for all additional costs for rock excavation which, in the opinion of the Contractor, are in excess of the BASE COST, including but not limited to extra blasting protection, closer grouping of blasting holes, more detonator caps, more caution, etc. The Contractor shall not bid less than zero (bid a deduct) for the Trench Rock PREMIUM COST. Any Bids containing a deduct will be declared non-responsive and rejected by the Owner.

4. The maximum allowable volume of rock excavation for payment shall be based on a trench width equal to the outside diameter of the pipe barrel plus 18 inches, but not less than 36 inches, and depth of rock on the pipe centerline, from the top of the rock to the bottom of the rock or the specified bottom of the trench, whichever has the higher elevation.

5. The Engineer must be given reasonable notice to measure all rock.

6. No allowance shall be made for excavating to extra widths for construction of manholes or other appurtenances, for excavating to sloping sides, or for excavations made necessary by the physical limitations of the Contractor's equipment. Cost of such additional rock excavation shall be included in the unit price bid for the item to which it pertains.

7. Payment for blasting monitoring shall be made from the BLASTING MONITORING cash allowance. A fee must be agreed upon by the Engineer prior to the Contractor employing an independent, qualified

specialty subcontractor to monitor the blasting. If the Contractor employs the specialty subcontractor prior to the Engineer's approval of the fee, all such costs are subject to non reimbursement.

E. Dewatering Excavations: All costs of equipment, labor and materials required for dewatering shall be included in the price bid for the item to which it pertains.

F. Trench Foundation and Stabilization

1. No payment for trench stabilization shall be authorized until after the trench has been dewatered. If the pipe is installed in an inadequately prepared trench bottom, the Engineer shall notify the Contractor in writing of the deficiency and will not authorize payment for that portion of that length of pipe which was improperly installed.

2. Payment for trench stabilization shall be made on the basis of the amount authorized and the unit price bid for BEYOND BEDDING under Trench Stabilization. Payment shall include all costs for the removal and disposal of the unsuitable material and replacement with crushed stone. No additional payment will be made for material required for specified bedding.

G. Initial Backfill

1. No separate payment shall be made for initial backfill.

2. No separate payment shall be made for drying out the initial backfill material in order to meet the compaction requirements.

3. No separate payment shall be made for the adding of moisture to the initial backfill materials in order to meet the compaction requirements.

4. No separate payment shall be made for providing select material if the insitu material cannot meet the compaction requirements.

H. Final Backfilling

1. No additional payment will be made for additional material when excavated materials are used.

2. No separate payment shall be made for drying out the final backfill material in order to meet the compaction requirements.

3. No separate payment shall be made for the adding of moisture to the final backfill materials in order to meet the compaction requirements.

4. No additional payment will be made for providing select material if the insitu material cannot meet the compaction requirements.

I. Additional Material: No separate payment will be made for additional earth or fill materials imported to the Project site.

1.10 Relocation of Existing Utilities

Relocation of existing power poles is considered incidental to the Work. All costs associated with installation of the new power pole and removal of the existing

pole, including all necessary coordination with utility companies, labor, materials, guy-wires, to provide a complete and permanent installation, shall be included in the unit price bid for the item to which it pertains.

1.11 Cash Allowances

A. General

1. The Contractor shall include in the Bid Total all allowances stated in the Contract Documents. These allowances shall cover the net cost of the services provided by a firm selected by the Owner. The Contractor's handling costs, labor, overhead, profit and other expenses contemplated for the original allowance shall be included in the items to which they pertain and not in allowances.

2. No payment will be made for nonproductive time on the part of testing personnel due to the Contractor's failure to properly coordinate testing activities with the work schedule or the Contractor's problems with maintaining equipment in good working condition. The Contractor shall make all necessary excavations and shall supply any samples of materials necessary for conducting compaction and density tests.

3. No payment shall be provided for services that fail to verify required results.

B. Should the net cost be more or less than the specified amount of the allowance, the Contract will be adjusted accordingly by change order. The amount of change order will not recognize any changes in handling costs at the site, labor, overhead, profit and other expenses caused by the adjustment to the allowance.

C. Documentation

1. Submit copies of the invoices with each periodic payment request from the firm providing the services.

2. Submit results of services provided which verify required results.

D. Schedule of Cash Allowances

1. Soils, Concrete, and Asphalt Testing: Allow the amount provided in the Bid for the services of a geotechnical engineering firm and testing laboratory to verify soils conditions including trench excavation and backfill, asphalt coring and density tests, testing of concrete cylinders for poured in place concrete, and similar issues as directed by the Engineer.

2. Materials Testing: Allow the amount provided in the Bid for the services of a testing laboratory for the testing of materials to be furnished on the Project, e.g., reinforced concrete pipe.

3. Construction Verification Surveying

a. Allow the amount provided in the Bid for construction surveying by an independent surveying firm, selected by the Owner, to perform horizontal and vertical alignment checks at the discretion of the Engineer.

b. This allowance is solely for the use of the Engineer for verification of the Contractor's reference points, centerlines and work performed. The presence of this cash allowance in no way relieves the Contractor of the responsibility of installing reference points, centerlines, temporary bench marks or verifying that the work has been performed accurately.

4. Additional Landscaping Not Shown on the Drawings: Allow the amount specified in the Bid for the provision of landscaping in addition to that shown on the Drawings, when directed by the Engineer.

5. Utility Conflict Resolution: Allow the amount specified in the Bid to resolve any unforeseen utility conflicts (including relocating and/or replacement).

6. Future Easement Stipulations: Allow the amount specified in the Bid to cover stipulations associated with new temporary or permanent easements, when directed by the Engineer.

7. Blasting Monitoring: Allow the amount provided in the Bid for the services of an independent, qualified specialty subcontractor to monitor the blasting, when directed by the Engineer.

END OF SECTION

Part 1 General

1.01 Scope

A. Construction staking shall include all of the surveying work required to layout the Work and control the location of the finished Project. The Contractor shall have the full responsibility for constructing the Project to the correct horizontal and vertical alignment, as shown on the Drawings, as specified, or as ordered by the Engineer. The Contractor shall assume all costs associated with rectifying work constructed in the wrong location.

B. From the information shown on the Drawings and the information to be provided as indicated under Project Conditions below, the Contractor shall:

1. Be responsible for setting reference points and/or offsets, establishment of baselines, and all other layout, staking, and all other surveying required for the construction of the Project.

2. Safeguard all reference points, stakes, grade marks, horizontal and vertical control points, and shall bear the cost of re establishing same if disturbed.

3. Stake out the permanent and temporary easements or the limits of construction to ensure that the Work is not deviating from the indicated limits.

4. Be responsible for all damage done to reference points, baselines, center lines and temporary bench marks, and shall be responsible for the cost of re establishment of reference points, baselines, center lines and temporary bench marks as a result of the operations.

C. Baselines shall be defined as the line to which the location of the Work is referenced, i.e., edge of pavement, road centerline, property line, right of way or survey line.

D. Record Drawing surveys shall be performed in accordance with Section 01720 of these Specifications.

1.02 Project Conditions

A. The Drawings provide the location and/or coordinates of principal components of the Project. The alignment of some components of the Project may be indicated in the Specifications. The Engineer may order changes to the location of some of the components of the Project or provide clarification to questions regarding the correct alignment.

B. The survey points, control points, and baseline to be provided to the Contractor shall be limited to only that information which can be found on the Project site by the Contractor.

C. A topographic survey is included on the Drawings.

1.03 Quality Assurance

A. The Contractor shall furnish documentation, prepared by a surveyor currently registered in the State of Georgia, confirming that staking is being done to the

horizontal and vertical alignment shown in the Contract Documents. This requires that the Contractor hire, at the Contractor's own expense, a currently registered surveyor, acceptable to the Owner, to provide ongoing construction staking or confirmation of such.

B. Any deviations from the Drawings shall be confirmed by the Engineer prior to construction of that portion of the Project.

C. Construction Surveying Cash Allowance

1. This cash allowance is solely for the use of the Engineer for verification of the Contractor's reference points, centerlines and work performed and is not to be used by the Contractor to provide cut sheets.

2. The presence of this cash allowance in no way relieves the Contractor of the responsibility of installing reference points, centerlines, temporary bench marks, verifying that the work has been performed accurately, and all other work covered by this Section.

1.04 Water Mains and Accessories

A. Staking Precision: The precision of construction staking required shall be that which the correct location of the water main can be established for construction and verified by the Engineer. Where the location of components of the water main, e.g. fittings, valves, road crossings and are not dimensioned, the establishment of the location of these components shall be based upon scaling these locations from the Drawings with relation to readily identifiable land marks, e.g., survey reference points, power poles, manholes, etc.

B. Reference Points

1. Reference points shall be placed, at or no more than three feet, from the outside of the construction easement or right of way. The location of the reference points shall be recorded in a log with a copy provided to the Engineer for use, prior to verifying reference point locations. Distances shall be accurately measured to 0.01 foot.

2. The Contractor shall give the Engineer reasonable notice that reference points are set. The reference point locations must be verified by the Engineer prior to commencing clearing and grubbing operations.

END OF SECTION

Part 1 General

1.01 Scope

A. Permits and Responsibilities: The Contractor shall, without additional expense to the Owner, be responsible for obtaining all necessary licenses and permits, including building permits, and for complying with any applicable federal, state, county and municipal laws, codes and regulations, in connection with the prosecution of the Work.

B. The Contractor shall take proper safety and health precautions to protect the Work, the workers, the public and the property of others.

C. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the Work, except for any completed unit of construction thereof which may heretofore have been accepted.

END OF SECTION

Part 1 General

1.01 Description

A. Whenever reference is made to conforming to the standards of any technical society, organization, body, code or standard, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the time of advertisement for Bids. This shall include the furnishing of materials, testing of materials, fabrication and installation practices. In those cases where the Contractor's quality standards establish more stringent quality requirements, the more stringent requirement shall prevail. Such standards are made a part hereof to the extent which is indicated or intended.

B. The inclusion of an organization under one category does not preclude that organizations' standards from applying to another category.

C. In addition, all work shall comply with the applicable requirements of local codes, utilities and other authorities having jurisdiction.

D. All material and equipment, for which a UL Standard, an AGA or NSF approval or an ASME requirement is established, shall be so approved and labeled or stamped. The label or stamp shall be conspicuous and not covered, painted, or otherwise obscured from visual inspection.

E. The standards which apply to this Project are not necessarily restricted to those organizations which are listed in Article 1.02.

1.02 Standard Organizations

A. Piping and Valves

ACPA	American Concrete Pipe Association
ANSI	American National Standards Institute
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
AWWA	American Water Works Association
CISPI	Cast Iron Soil Pipe Institute
DIPRA	Ductile Iron Pipe Research Association
FCI	Fluid Controls Institute
MSS	Manufacturers Standardization Society
NCPI	National Clay Pipe Institute
NSF	National Sanitation Foundation
PPI	Plastic Pipe Institute
Uni Bell PVC Pipe Association	

B. Materials

AASHTO	American Association of State Highway and Transportation Officials
ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials

C. Painting and Surface Preparation

NACE	National Association of Corrosion Engineers
SSPC	Steel Structures Painting Council

D. Electrical and Instrumentation

AEIC	Association of Edison Illuminating Companies
AIEE	American Institute of Electrical Engineers
EIA	Electronic Industries Association
ICEA	Insulated Cable Engineers Association
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IPC	Institute of Printed Circuits
IPCEA	Insulated Power Cable Engineers Association
ISA	ISA – The Instrumentation, Systems, and Automation Society
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
REA	Rural Electrification Administration
TIA	Telecommunications Industries Association
UL	Underwriter's Laboratories
VRCI	Variable Resistive Components Institute

E. Aluminum

AA	Aluminum Association
AAMA	American Architectural Manufacturers Association

F. Steel and Concrete

ACI	American Concrete Institute
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
CRSI	Concrete Reinforcing Steel Institute
NRMA	National Ready Mix Association
PCA	Portland Cement Association
PCI	Prestressed Concrete Institute

G. Welding

ASME	American Society of Mechanical Engineers
AWS	American Welding Society

H. Government and Technical Organizations

AIA	American Institute of Architects
APHA	American Public Health Association
APWA	American Public Works Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASQC	American Society of Quality Control
ASSE	American Society of Sanitary Engineers
CFR	Code of Federal Regulations
CSI	Construction Specifications Institute
EDA	Economic Development Administration
EPA	Environmental Protection Agency
FCC	Federal Communications Commission
FmHA	Farmers Home Administration

FS	Federal Specifications
IAI	International Association of Identification
ISEA	Industrial Safety Equipment Association
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
NBFU	National Board of Fire Underwriters
(NFPA)	National Fluid Power Association
NBS	National Bureau of Standards
NISO	National Information Standards Organization
OSHA	Occupational Safety and Health Administration
SI	Salt Institute
SPI	The Society of the Plastics Industry, Inc.
USDC	United States Department of Commerce
WEF	Water Environment Federation

I. General Building Construction

AHA	American Hardboard Association
AHAM	Association of Home Appliance Manufacturers
AITC	American Institute of Timber Construction
APA	American Parquet Association, Inc.
APA	American Plywood Association
BHMA	Builders Hardware Manufacturers Association
BIFMA	Business and Institutional Furniture Manufacturers Association
DHI	Door and Hardware Institute
FM	Factory Mutual Fire Insurance Company
HPMA	Hardwood Plywood Manufacturers Association
HTI	Hand Tools Institute
IME	Institute of Makers of Explosives
ISANTA	International Staple, Nail and Tool Association
ISDSI	Insulated Steel Door Systems Institute
IWS	Insect Screening Weavers Association
MBMA	Metal Building Manufacturers Association
NAAMM	National Association of Architectural Metal Manufacturers
NAGDM	National Association of Garage Door Manufacturers
NCCLS	National Committee for Clinical Laboratory Standards
NFPA	National Fire Protection Association
NFSA	National Fertilizer Solutions Association
NKCA	National Kitchen Cabinet Association
NWMA	National Woodwork Manufacturers Association
NWWDA	National Wood Window and Door Association
RMA	Rubber Manufacturers Association
SBC	SBCC Standard Building Code
SDI	Steel Door Institute
SIA	Scaffold Industry Association
SMA	Screen Manufacturers Association
SPRI	Single Ply Roofing Institute
TCA	Tile Council of America
UBC	Uniform Building Code

J. Roadways

AREA	American Railway Engineering Association
DOT	Department of Transportation
SSRBC	Standard Specifications for Construction of Transportation Systems, Georgia Department of Transportation

K. Plumbing

AGA	American Gas Association
NSF	National Sanitation Foundation
PDI	Plumbing Drainage Institute
SPC	SBCC Standard Plumbing Code

L. Refrigeration, Heating, and Air Conditioning

AMCA	Air Movement and Control Association
ARI	American Refrigeration Institute
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
CGA	Compressed Gas Association
CTI	Cooling Tower Institute
HEI	Heat Exchange Institute
IIAR	International Institute of Ammonia Refrigeration
NB	National Board of Boilers and Pressure Vessel Inspectors
PFMA	Power Fan Manufacturers Association
SAE	Society of Automotive Engineers
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SMC	SBCC Standard Mechanical Code
TEMA	Tubular Exchangers Manufacturers Association

M. Equipment

AFBMA	Anti Friction Bearing Manufacturers Association, Inc.
AGMA	American Gear Manufacturers Association
ALI	Automotive Lift Institute
CEMA	Conveyor Equipment Manufacturers Association
CMAA	Crane Manufacturers Association of America
DEMA	Diesel Engine Manufacturers Association
MMA	Monorail Manufacturers Association
OPEI	Outdoor Power Equipment Institute, Inc.
PTI	Power Tool Institute, Inc.
RIA	Robotic Industries Association
SAMA	Scientific Apparatus Makers Association

1.03 Symbols

Symbols and material legends shall be as scheduled on the Drawings.

END OF SECTION

Part 1 General

1.01 Scope

A. Work under this Section includes all scheduling and administering of pre construction and progress meetings as herein specified and necessary for the proper and complete performance of this Work.

B. Scheduling and Administration by Engineer:

1. Prepare agenda.
2. Make physical arrangements for the meetings.
3. Preside at meetings.
4. Record minutes and include significant proceedings and decisions.
5. Distribute copies of the minutes to participants.

1.02 Preconstruction Conference

A. The Engineer shall schedule the preconstruction conference prior to the issuance of the Notice to Proceed.

B. Representatives of the following parties are to be in attendance at the meeting:

1. Owner.
2. Engineer.
3. Contractor and superintendent.
4. Major subcontractors.
5. Representatives of governmental or regulatory agencies when appropriate.

C. The agenda for the preconstruction conference shall consist of the following as a minimum:

1. Distribute and discuss a list of major subcontractors and a tentative construction schedule.
2. Critical work sequencing.
3. Designation of responsible personnel and emergency telephone numbers.
4. Processing of field decisions and change orders.
5. Adequacy of distribution of Contract Documents.
6. Schedule and submittal of shop drawings, product data and samples.
7. Pay request format, submittal cutoff date, pay date and retain age.

8. Procedures for maintaining record documents.

9. Use of premises, including office and storage areas and Owner's requirements.

10. Major equipment deliveries and priorities.

11. Safety and first aid procedures.

12. Security procedures.

13. Housekeeping procedures.

14. Work hours.

1.03 Project Coordination Meetings

A. Schedule regular monthly meetings as directed by the Engineer.

B. Hold called meetings as the progress of the Work dictates.

C. The meetings shall be held at the location indicated by the Engineer.

D. Representatives of the following parties are to be in attendance at the meetings:

1. Engineer.

2. Contractor and superintendent.

3. Major subcontractors as pertinent to the agenda.

4. Owner's representative as appropriate.

5. Representatives of governmental or other regulatory agencies as appropriate.

E. The minimum agenda for progress meetings shall consist of the following:

1. Review and approve minutes of previous meetings.

2. Review work progress since last meeting.

3. Note field observations, problems and decisions.

4. Identify problems which impede planned progress.

5. Review off site fabrication problems.

6. Review Contractor's corrective measures and procedures to regain plan schedule.

7. Review Contractor's revision to the construction schedule as outlined in the Supplementary Conditions.

8. Review submittal schedule; expedite as required to maintain schedule.

9. Maintenance of quality and work standards.

10. Review changes proposed by Owner for their effect on the construction schedule and completion date.

11. Complete other current business.

END OF SECTION

Part 1 General

1.01 Scope

A. The work under this Section includes preparing, furnishing, distributing, and periodic updating of the construction schedules as specified herein.

B. The purpose of the schedule is to demonstrate that the Contractor can complete the overall Project within the Contract Time and meet all required interim milestones.

1.02 Submittals

A. Overall Project Schedule (OPS)

1. Submit the schedule within 10 days after date of the Notice to Proceed.

2. The Engineer will review the schedule and return it within 10 days after receipt.

3. If required, resubmit within 10 days after receipt of a returned copy.

B. Near Term Schedule (NTS)

1. Submit the first Near Term Schedule within 10 days of the Notice to Proceed.

2. The Engineer will review the schedule and return it within 10 days after receipt.

C. Submit an update of the OPS and NTS with each progress payment request.

D. Submit the number of copies required by the Contractor, plus four copies to be retained by the Engineer.

1.03 Approval

Approval of the Contractor's detailed construction program and revisions thereto shall in no way relieve the Contractor of any of Contractor's duties and obligations under the Contract. Approval is limited to the format of the schedule and does not in any way indicate approval of, or concurrence with, the Contractor's means, methods and ability to carry out the Work.

1.04 Overall Project Schedule (OPS)

A. The Contractor shall submit to the Owner for approval a detailed Overall Project Schedule of the Contractor's proposed operations for the duration of the Project. The OPS shall be in the form of a Gantt/bar chart.

B. Gantt/Bar Chart Schedule

1. Each activity with a duration of five or more days shall be identified by a separate bar. Activities with a duration of more than 20 days shall be sub divided into separate activities.

2. The schedule shall include activities for shop drawing preparation and review, fabrication, delivery, and installation of major or critical path materials and equipment items.

3. The schedule shall show the proposed start and completion date for each activity. A separate listing of activity start and stop dates and working day requirements shall be provided unless the information is shown in text form on the Gantt/bar chart.

4. The schedule shall identify the Notice to Proceed date, the Contract Completion date, major milestone dates, and a critical path.

5. The schedule shall be printed on a maximum 11 x 17 inch size paper. If the OPS needs to be shown on multiple sheets, a simplified, one page, summary bar chart showing the entire Project shall be provided.

6. The schedule shall have a horizontal time scale based on calendar days and shall identify the Monday of each week.

7. The schedule shall show the precedence relationship for each activity.

1.05 Near Term Schedule (NTS)

A. The Contractor shall develop and refine a detailed Near Term Schedule showing the day to day activities with committed completion dates which must be performed during the upcoming 30 day period. The detailed schedule shall represent the Contractor's best approach to the Work which must be accomplished to maintain progress consistent with the Overall Project Schedule.

B. The Near Term Schedule shall be in the form of Gantt/bar chart and shall include a written narrative description of all activities to be performed and describe corrective action to be taken for items that are behind schedule.

1.06 Updating

A. Show all changes occurring since previous submission of the updated schedule.

B. Indicate progress of each activity and show actual completion dates.

C. The Contractor shall be prepared to provide a narrative report at the Project Coordination Meetings. The report shall include the following:

1. A description of the overall Project status and comparison to the OPS.

2. Identify activities which are behind schedule and describe corrective action to be taken.

3. A description of changes or revisions to the Project and their effect on the OPS.

4. A description of the Near Term Schedule of the activities to be completed during the next 30 days. The report shall include a description of all activities requiring participation by the Engineer and/or Owner.

END OF SECTION

Part 1 General

1.01 Scope

A. The Contractor shall furnish all equipment and labor materials required to provide the Owner with digital construction videos and photographs of the Project. Photographs and videos shall be provided on a compact disk, in DVD format.

B. Photo and video files shall become the property of the Owner and none of the videos or photographs herein shall be published without express permission of the Owner.

1.02 Pre and Post Construction Videos and Photographs

A. Prior to the beginning of any work, the Contractor shall take project videos and photographs of the work area to record existing conditions.

B. Following completion of the work, another recording and photos shall be made showing the same areas and features as in the pre construction videos and photographs.

C. All conditions which might later be subject to disagreement shall be shown in sufficient detail to provide a basis for decisions.

D. The pre construction videos and photographs shall be submitted to the Engineer within 25 calendar days after the date of receipt by the Contractor of Notice to Proceed. Post construction videos and photographs shall be provided prior to final acceptance of the project.

1.03 Progress Photographs and Submittals

A. Progress photograph files shall be provided on compact discs as well as hard copies.

B. The file name of each photograph shall at a minimum contain the date the photograph was taken. All photographs shall be labeled to indicate date, time taken, and description of work shown.

C. A minimum of 10 photographs shall be submitted with each request for payment. The view selection will be as agreed to with the Engineer. One copy of each photograph shall be submitted. Failure to include photographs may be cause for rejection of the payment request.

D. Videos shall be submitted with a log of the items recorded, referenced to stations and property identification numbers.

END OF SECTION

Part 1 General

1.01 Scope

A. The work under this Section includes submittal to the Engineer of shop drawings, product data and samples required by the various sections of these Specifications.

B. Submittal Contents: The submittal contents required are specified in each section.

C. Definitions: Submittals are categorized as follows:

1. Shop Drawings

a. Shop drawings shall include technical data, drawings, diagrams, procedure and methodology, performance curves, schedules, templates, patterns, test reports, calculations, instructions, measurements and similar information as applicable to the specific item for which the shop drawing is prepared.

b. Provide newly prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated) or appropriate number of prints hereof, with name or preparer (firm name) indicated. The Contract Drawings shall not be traced or reproduced by any method for use as or in lieu of detail shop drawings. Show dimensions and note dimensions that are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards and special coordination requirements. Do not allow shop drawings to be used in connection with the Work without appropriate final “Action” markings by the Engineer.

c. Drawings shall be presented in a clear and thorough manner. Details shall be identified by reference to sheet and detail, specification section, schedule or room numbers shown on the Contract Drawings.

d. Minimum assembly drawings sheet size shall be 24 x 36 inches.

e. Minimum detail sheet size shall be 8 1/2 x 11 inches.

f. Minimum Scale:

i. Assembly Drawings Sheet, Scale: 1 inch = 30 feet.
ii. Detail Sheet, Scale: 1/4 inch = 1 foot.

2. Product Data

a. Product data includes standard printed information on materials, products and systems, not specially prepared for this Project, other than the designation of selections from among available choices printed therein.

b. Collect required data into one submittal for each unit of work or system, and mark each copy to show which choices and options are applicable to the Project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked and special coordination requirements.

3. Samples

a. Samples include both fabricated and un fabricated physical examples of materials, products and units of work, both as complete units and as smaller portions of units of work, either for limited visual inspection or, where indicated, for more detailed testing and analysis.

b. Provide units identical with final condition of proposed materials or products for the work. Include “range” samples, not less than three units, where unavoidable variations must be expected, and describe or identify variations between units of each set. Provide full set of optional samples where the Engineer's selection is required. Prepare samples to match the Engineer's sample where indicated. Include information with each sample to show generic description, source or product name and manufacturer, limitations and compliance with standards. Samples are submitted for review and confirmation of color, pattern, texture and “kind” by the Engineer. Engineer will note “test” samples, except as otherwise indicated, for other requirements, which are the exclusive responsibility of the Contractor.

4. Miscellaneous submittals related directly to the Work (non administrative) warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operating and maintenance materials, overrun stock, security/protection/safety keys and similar information, devices and materials applicable to the Work but not processed as shop drawings, product data or samples.

1.02 Specific Category Requirements

A. General: Except as otherwise indicated in the individual work sections, comply with general requirements specified herein for each indicated category of submittal. Submittals shall contain:

1. The date of submittal and the dates of any previous submittals.

2. The Project title.

3. Numerical submittal numbers, starting with 1.0, 2.0, etc. Revisions to be numbered 1.1, 1.2, etc.

4. The Names of:

a. Contractor
b. Supplier

c. Manufacturer

5. Identification of the product, with the Specification section number, permanent equipment tag numbers and applicable Drawing No.

6. Field dimensions, clearly identified as such.

7. Relation to adjacent or critical features of the Work or materials.

8. Applicable standards, such as ASTM or Federal Specification numbers.

9. Notification to the Engineer in writing, at time of submissions, of any deviations on the submittals from requirements of the Contract Documents.

10. Identification of revisions on resubmittals.

11. An 8 x 3 inch blank space for Contractor and Engineer stamps.

12. Contractor's stamp, initialed or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria and coordination of the information within the submittal with requirements of the Work and of Contract Documents.

13. Submittal sheets or drawings showing more than the particular item under consideration shall have all but the pertinent description of the item for which review is requested crossed out.

1.03 Routing of Submittals

A. Submittals and routine correspondence shall be routed as follows:

1. Supplier to Contractor (through representative if applicable)
2. Contractor to Engineer
3. Engineer to Contractor and Owner
4. Contractor to Supplier

Part 2 Products

2.01 Shop Drawings

A. Unless otherwise specifically directed by the Engineer, make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the Work.

B. Submit all shop drawings in the form of six hard copies and one pdf file.

C. One reproducible for all submittals larger than 11 x 17 inches and no more than three prints of other submittals will be returned to the Contractor.

2.02 Manufacturer's Literature

A. Where content of submitted literature from manufacturers includes data not pertinent to this submittal, clearly indicate which portion of the contents is being submitted for the Engineer's review.

B. Submit the number of copies which are required to be returned (not to exceed three) plus three copies which will be retained by the Engineer.

2.03 Samples

A. Samples shall illustrate materials, equipment or workmanship and established standards by which completed work is judged.

B. Unless otherwise specifically directed by the Engineer, all samples shall be of the precise article proposed to be furnished.

C. Submit all samples in the quantity which is required to be returned plus one sample which will be retained by the Engineer.

2.04 Colors

A. Unless the precise color and pattern is specifically described in the Contract Documents, wherever a choice of color or pattern is available in a specified product, submit accurate color charts and pattern charts to the Engineer for review and selection.

B. Unless all available colors and patterns have identical costs and identical wearing capabilities, and are identically suited to the installation, completely describe the relative costs and capabilities of each.

Part 3 Execution

3.01 Contractor's Coordination of Submittals

A. Prior to submittal for the Engineer's review, the Contractor shall use all means necessary to fully coordinate all material, including the following procedures:

1. Determine and verify all field dimensions and conditions, catalog numbers and similar data.

2. Coordinate as required with all trades and all public agencies involved.

3. Submit a written statement of review and compliance with the requirements of all applicable technical Specifications as well as the requirements of this Section.

4. Clearly indicate in a letter or memorandum on the manufacturer's or fabricator's letterhead, all deviations from the Contract Documents.

B. Each and every copy of the shop drawings and data shall bear the Contractor's stamp showing that they have been so checked. Shop drawings submitted to the Engineer without the Contractor's stamp will be returned to the Contractor for conformance with this requirement.

C. The Owner may back charge the Contractor for costs associated with having to review a particular shop drawing, product data or sample more than two times to receive a “No Exceptions Taken” mark.

D. Grouping of Submittals

1. Unless otherwise specifically permitted by the Engineer, make all submittals in groups containing all associated items.

2. No review will be given to partial submittals of shop drawings for items which interconnect and/or are interdependent. It is the Contractor's responsibility to assemble the shop drawings for all such interconnecting and/or interdependent items, check them and then make one submittal to the Engineer along with Contractor's comments as to compliance, non compliance or features requiring special attention.

E. Schedule of Submittals

1. Within 30 days of Contract award and prior to any shop drawing submittal, the Contractor shall submit a schedule showing the estimated date of submittal and the desired approval date for each shop drawing anticipated. A reasonable period shall be scheduled for review and comments. Time lost due to unacceptable submittals shall be the Contractor's responsibility and some time allowance for resubmittal shall be provided. The schedule shall provide for submittal of items which relate to one another to be submitted concurrently.

3.02 Timing of Submittals

A. Make all submittals far enough in advance of scheduled dates for installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.

B. In scheduling, allow sufficient time for the Engineer's review following the receipt of the submittal.

3.03 Reviewed Shop Drawings

A. Engineer Review

1. Allow a minimum of 30 days for the Engineer's initial processing of each submittal requiring review and response, except allow longer periods where processing must be delayed for coordination with subsequent submittals. The Engineer will advise the Contractor promptly when it is determined that a submittal being processed must be delayed for coordination. Allow a minimum of two weeks for reprocessing each submittal. Advise the Engineer on each submittal as to whether processing time is critical to progress of the Work, and therefore the Work would be expedited if processing time could be foreshortened.

2. Acceptable submittals will be marked “No Exceptions Taken”. A minimum of three copies will be retained by the Engineer for Engineer's and the Owner's use and the remaining copies will be returned to the Contractor.

3. Submittals requiring minor corrections before the product is acceptable will be marked “Make Corrections Noted”. The Contractor may order, fabricate and ship the items included in the submittals, provided the indicated corrections are made. Drawings must be resubmitted for

review and marked “No Exceptions Taken” prior to installation or use of products.

4. Submittals marked “Amend and Resubmit” must be revised to reflect required changes and the initial review procedure repeated.

5. The “Rejected See Remarks” notation is used to indicate products which are not acceptable. Upon return of a submittal so marked, the Contractor shall repeat the initial review procedure utilizing acceptable products.

6. Only two copies of items marked “Amend and Resubmit” and “Rejected See Remarks” will be reviewed and marked. One copy will be retained by the Engineer and the other copy with all remaining unmarked copies will be returned to the Contractor for resubmittal.

B. No work or products shall be installed without a drawing or submittal bearing the “No Exceptions Taken” notation. The Contractor shall maintain at the job site a complete set of shop drawings bearing the Engineer's stamp.

C. Substitutions: In the event the Contractor obtains the Engineer's approval for the use of products other than those which are listed first in the Contract Documents, the Contractor shall, at the Contractor's own expense and using methods approved by the Engineer, make any changes to structures, piping and electrical work that may be necessary to accommodate these products.

D. Use of the “No Exceptions Taken” notation on shop drawings or other submittals is general and shall not relieve the Contractor of the responsibility of furnishing products of the proper dimension, size, quality, quantity, materials and all performance characteristics, to efficiently perform the requirements and intent of the Contract Documents. The Engineer's review shall not relieve the Contractor of responsibility for errors of any kind on the shop drawings. Review is intended only to assure conformance with the design concept of the Project and compliance with the information given in the Contract Documents. The Contractor is responsible for dimensions to be confirmed and correlated at the job site. The Contractor is also responsible for information that pertains solely to the fabrication processes or to the technique of construction and for the coordination of the work of all trades.

3.04 Resubmission Requirements

A. Shop Drawings

1. Revise initial drawings as required and resubmit as specified for initial submittal, with the resubmittal number shown.

2. Indicate on drawings all changes which have been made other than those requested by the Engineer.

B. Project Data and Samples: Resubmit new data and samples as specified for initial submittal, with the resubmittal number shown.

END OF SECTION

Part 1 General

1.01 Scope

A. This Section includes testing which the Owner may require, beyond that testing required of the manufacturer, to determine if materials provided for the Project meet the requirements of these Specifications.

B. This work also includes all testing required by the Owner to verify work performed by the Contractor is in accordance with the requirements of these Specifications, i.e., concrete strength and slump testing, soil compaction, etc.

C. This work does not include materials testing required in various sections of these Specifications to be performed by the manufacturer, e.g., testing of pipe.

D. The testing laboratory or laboratories will be selected by the Owner. The testing laboratory or laboratories will work for the Owner.

1.02 Payment for Testing Services

A. The cost of testing services required by the Contract to be provided by the Contractor shall be paid for by the Owner through the CASH ALLOWANCE, i.e., concrete testing, soil compaction, and asphalt testing.

B. The cost of additional testing services not specifically required in the Specifications, but requested by the Owner or Engineer, shall be paid for by the Owner through the CASH ALLOWANCE.

C. The cost of material testing described in various sections of these Specifications or as required in referenced standards to be provided by a material manufacturer, shall be included in the price bid for that item and shall not be paid for by the Owner.

D. The cost of retesting any item that fails to meet the requirements of these Specifications shall be paid for by the Contractor. Retesting shall be performed by the testing laboratory working for the Owner.

1.03 Laboratory Duties

A. Cooperate with the Owner, Engineer and Contractor.

B. Provide qualified personnel promptly on notice.

C. Perform specified inspections, sampling and testing of materials.

1. Comply with specified standards, ASTM, other recognized authorities, and as specified.

2. Ascertain compliance with requirements of the Contract Documents.

D. Promptly notify the Engineer and Contractor of irregularity or deficiency of work which are observed during performance of services.

E. Promptly submit three copies (two copies to the Engineer and one copy to the Contractor) of report of inspections and tests in addition to those additional copies required by the Contractor with the following information included:

1. Date issued
2. Project title and number
3. Testing laboratory name and address
4. Name and signature of inspector
5. Date of inspection or sampling
6. Record of temperature and weather
7. Date of test
8. Identification of product and Specification section
9. Location of Project
10. Type of inspection or test
11. Results of test
12. Observations regarding compliance with the Contract Documents

F. Perform additional services as required.

G. The laboratory is not authorized to release, revoke, alter or enlarge on requirements of the Contract Documents, or approve or accept any portion of the Work.

1.04 Contractor Responsibilities

A. Cooperate with laboratory personnel, provide access to Work and/or manufacturer's requirements.

B. Provide to the laboratory, representative samples, in required quantities, of materials to be tested.

C. Furnish copies of mill test reports.

D. Furnish required labor and facilities to:

1. Provide access to Work to be tested;
2. Obtain and handle samples at the site;
3. Facilitate inspections and tests;
4. Build or furnish a holding box for concrete cylinders or other samples as required by the laboratory.

E. Notify the laboratory sufficiently in advance of operation to allow for the assignment of personnel and schedules of tests.

F. Laboratory Tests: Where such inspection and testing are to be conducted by an independent laboratory agency, the sample(s) shall be selected by such

laboratory or agency, or the Engineer, and shipped to the laboratory by the Contractor at Contractor's expense.

G. Copies of all correspondence between the Contractor and testing agencies shall be provided to the Engineer.

1.05 Quality Assurance

Testing shall be in accordance with all pertinent codes and regulations and with procedures and requirements of the American Society for Testing and Materials (ASTM).

1.06 Product Handling

Promptly process and distribute all required copies of test reports and related instructions to insure all necessary retesting or replacement of materials with the least possible delay in the progress of the Work.

1.07 Furnishing Materials

The Contractor shall be responsible for furnishing all materials necessary for testing.

1.08 Code Compliance Testing

Inspections and tests required by codes or ordinances or by a plan approval authority, and made by a legally constituted authority, shall be the responsibility of, and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.

1.09 Contractor's Convenience Testing

Inspection or testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

1.10 Schedules for Testing

A. Establishing Schedule

1. The Contractor shall, by advance discussion with the testing laboratory selected by the Owner, determine the time required for the laboratory to perform its tests and to issue each of its findings, and make all arrangements for the testing laboratory to be on site to provide the required testing.

2. Provide all required time within the construction schedule.

B. When changes of construction schedule are necessary during construction, coordinate all such changes of schedule with the testing laboratory as required.

C. When the testing laboratory is ready to test according to the determined schedule, but is prevented from testing or taking specimens due to incompleteness of the Work, all extra costs for testing attributable to the delay will be back charged to the Contractor and shall not be borne by the Owner.

1.11 Taking Specimens

Unless otherwise provided in the Contract Documents, all specimens and samples for tests will be taken by the testing laboratory or the Engineer.

1.12 Transporting Samples

The Contractor shall be responsible for transporting all samples, except those taken by testing laboratory personnel, to the testing laboratory.

END OF SECTION

Part 1 General

1.01 Scope

A. Temporary facilities required for this work include, but are not necessarily limited to:

1. Temporary utilities such as water and electricity.

2. First aid facilities.

3. Sanitary facilities.

4. Potable water.

5. Temporary enclosures and construction facilities.

1.02 General

A. First aid facilities, sanitary facilities and potable water shall be available on the Project site on the first day that any activities are conducted on site. The other facilities shall be provided as the schedule of the Project warrants.

B. Maintenance: Use all means necessary to maintain temporary facilities in proper and safe condition throughout progress of the Work. In the event of loss or damage, immediately make all repairs and replacements necessary, at no additional cost to the Owner.

C. Removal: Remove all such temporary facilities and controls as rapidly as progress of the Work will permit.

1.03 Temporary Utilities

A. General

1. Provide and pay all costs for all water, electricity and other utilities required for the performance of the Work.

2. Pay all costs for temporary utilities until Project completion.

3. Costs for temporary utilities shall include all power, water and the like necessary for testing equipment as required by the Contract Documents.

B. Temporary Water: Provide all necessary temporary piping, and upon completion of the Work, remove all such temporary piping. Provide and remove water meters.

C. Temporary Electricity

1. Provide all necessary wiring for the Contractor's use.

2. Furnish, locate and install area distribution boxes such that the individual trades may use, their own construction type extension cords to obtain adequate power, and artificial lighting at all points where required by inspectors and for safety.

1.04 First Aid Facilities

The Contractor shall provide a suitable first aid station, equipped with all facilities and medical supplies necessary to administer emergency first aid treatment. The Contractor shall have standing arrangements for the removal and hospital treatment of any injured person. All first aid facilities and emergency ambulance service shall be made available by the Contractor to the Owner and the Engineer's personnel.

1.05 Sanitary Facilities

Prior to starting the Work, the Contractor shall furnish, for use of Contractor's personnel on the job, all necessary toilet facilities which shall be secluded from public observation. These facilities shall be either chemical toilets or shall be connected to the Owner's sanitary sewer system. All facilities, regardless of type, shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the area in which the Work is performed. Adequacy of these facilities will be subject to the Engineer's review and maintenance of same must be satisfactory to the Engineer at all times.

1.06 Potable Water

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

1.07 Enclosures and Construction Facilities

Furnish, install and maintain for the duration of construction, all required scaffolds, tarpaulins, canopies, steps, bridges, platforms and other temporary construction necessary for proper completion of the Work in compliance with all pertinent safety and other regulations.

1.08 Parking Facilities

Parking facilities for the Contractor's and Contractor's subcontractors' personnel shall be the Contractor's responsibility. The storage and work facilities provided by the Owner will not be used for parking by the Contractor's or subcontractor's personnel.

END OF SECTION

Part 1 General

1.01 Barricades, Lights and Signals

A. The Contractor shall furnish and erect such barricades, fences, lights and danger signals and shall provide such other precautionary measures for the protection of persons or property and of the Work as necessary. Barricades shall be painted in a color that will be visible at night. From sunset to sunrise, the Contractor shall furnish and maintain at least one light at each barricade and sufficient numbers of barricades shall be erected to keep vehicles from being driven on or into any Work under construction.

B. The Contractor will be held responsible for all damage to the Work due to failure of barricades, signs and lights and whenever evidence is found of such damage, the Contractor shall immediately remove the damaged portion and replace it at Contractor's cost and expense. The Contractor's responsibility for the maintenance of barricades, signs and lights shall not cease until the Project has been accepted by the Owner.

END OF SECTION

Part 1 General

1.01 Scope

Limit blowing dust caused by construction operations by applying water or employing other appropriate means or methods to maintain dust control, subject to the approval of the Owner. As a minimum, this may require the use of a water wagon twice a day to suppress dusty conditions.

1.02 Protection of Adjacent Property

A. The Contractor shall visit the site and note the buildings, landscaping, roads, parking areas and other facilities near the Work site that may be damaged by their operations. The Contractor shall make adequate provision to fully protect the surrounding area and will be held fully responsible for all damages resulting from Contractor's operations.

B. Protect all existing facilities (indoors or out) from damage by dust, fumes, spray or spills (indoors or out). Protect motors, bearings, electrical gear, instrumentation and building or other surfaces from dirt, dust, welding fumes, paint spray, spills or droppings causing wear, corrosion, malfunction, failure or defacement by enclosure, sprinkling or other dust palliatives, masking and covering, exhausting or containment.

END OF SECTION

Part 1 General

1.01 Scope

A. The work under this Section shall include the furnishing of a minimum of one painted sign of not less than 32 square feet in area, with painted graphic content that includes:

1. Project title
2. Owner's name
3. Names of governmental units participating in the Project
4. Engineer's name
5. Names and titles of other parties to be directed by the Engineer

1.02 Design

The Contractor shall provide a scale drawing showing the graphic design, style of lettering and colors to the Engineer for approval.

Part 2 Products

2.01 Materials

A. Structure and Framing: May be new or used, wood or metal, in sound condition structurally adequate to work and suitable for specified finish.

B. Sign Surfaces: Exterior soft wood plywood with medium density overlay, standard large sizes to minimize joints.

C. Thickness: As required by standards to span framing members, to provide even, smooth surface without waves or buckles.

D. Rough Hardware: Galvanized.

E. Paint: Exterior quality.

Part 3 Execution

3.01 Erection

Erect the sign on the site in a high visibility location, adjacent to the Project as approved by the Engineer.

3.02 Maintenance

Contractor shall maintain the Project Sign in good condition during the Contract period.

END OF SECTION

Part 1 General

1.01 Scope

This Section outlines the restrictions and requirements for substitutions, product and manufacturer options, and construction method options.

1.02 Definitions

A. For the purposes of these Contract Documents, a “substitute item” shall be defined as one of the following:

1. A product or manufacturer offered as a replacement to a specified product or manufacturer.

2. A product or manufacturer offered in addition to a specified product or manufacturer.

B. For the purposes of these Contract Documents, a “substitute construction method” shall be defined as one of the following:

1. A mean, method, technique, sequence or procedure of construction offered as a replacement for a specified mean, method, technique, sequence or procedure of construction.

2. A mean, method, technique, sequence or procedure of construction offered in addition to a specified mean, method, technique, sequence or procedure of construction.

1.03 General

A. An item or construction method, which is offered where no specific product, manufacturer, mean, method, technique, sequence or procedure of construction is specified or shown on the Drawings, shall not be considered a substitute and shall be at the option of the Contractor, subject to the provisions in the Contract Documents for that item or construction method.

B. For products specified only by a referenced standard, the Contractor may select any product by any manufacturer, which meets the requirements of the Specifications, unless indicated otherwise in the Contract Documents.

C. If the manufacturer is named on the Drawings or in the Specifications as an acceptable manufacturer, products of that manufacturer meeting all requirements of the Specifications and Drawings are acceptable.

D. Whenever the Engineer's design is based on a specific product of a particular manufacturer, that manufacturer will be shown on the Drawings and/or listed first in the list of approved manufacturers in the Specifications. Any Bidder intending to furnish products of other than the first listed manufacturer, or furnish substitute items, shall

1. Verify that the item being furnished will fit in the space allowed, perform the same functions and have the same capabilities as the item specified.

2. Include in its Bid the cost of all accessory items which may be required by the other listed substitute product,

3. Include the cost of any architectural, structural, mechanical, piping, electrical or other modifications required, and

4. Include the cost of required additional work by the Engineer, if any, to accommodate the item.

E. Whenever a product is identified on the Drawings or in the Specifications by reference to manufacturers or vendors names, trade names, catalog numbers, etc., it is intended only to denote the quality standard of product desired and that they do not restrict Bidders to a specific brand, make, manufacturer or specific name. These listings and citations are used only to set forth and convey to Bidders the general style, type, character and quality of product desired. Equivalent products will be acceptable, subject to the substitution provisions of this Section.

1.04 Approvals

Approval, of a substitution as an acceptable manufacturer, of the Engineer is dependent on determination that the product offered is essentially equal in function, performance, quality of manufacture, ease of maintenance, reliability, service life and other criteria to that on which the design is based; and will require no major modifications to structures, electrical systems, control systems or piping systems.

1.05 Substitutions and Options

A. No substitutions will be considered for the manufacturers listed in the Bid Form.

B. After Notice to Proceed

1. Substitute items will be considered only if the term “equal to” precedes the names of acceptable manufacturers in the Specification.

2. Where items are specified by referenced standard or specified as indicated in Article 1.03, Paragraph A. above, such items shall be submitted to the Engineer for review.

3. The Contractor shall submit shop drawings on the substitute item for the Engineer's review in accordance with the Section 01340.

C. Prior to Opening of Bids

1. No consideration or approvals will be made for products specified by a referenced standard, or specified as indicated in Article 1.02, Paragraph A. above. Such consideration may occur only after the Notice to Proceed.

2. No consideration or approvals will be made for products being offered where the term “equal to” precedes the name of an approved product. Such substitution consideration may occur only after the Notice to Proceed.

3. If the term “or equal” follows the names of acceptable manufacturers, then other manufacturers desiring approval as an acceptable manufacturer may submit the product information to the Engineer for

approval during the bidding phase, as indicated below. With the exception of where the phrase “no substitutions” is associated with a list of manufacturers, where a list of acceptable manufacturers is not preceded by the phrase “equal to”, the list of acceptable manufacturers shall be considered as having the phrase “or equal” following the list, and the list being subject to the “or equal” provisions of this section.

4. The manufacturer shall include the following items in its “or equal” submittal:

   a. Descriptive literature including information on materials used, minimum design standards, standard design features, manufacturing processes and facilities, and similar information which will indicate experience and expertise in the manufacture of the product being evaluated.

   b. Performance specifications applicable to the manufacturer's standard design which indicates the level of performance to be expected from the product.

   c. A complete set of submittal drawings of similar products which have been completed and placed into operation.

   d. A list of existing installations of products similar in type and size, information required to satisfy specified experience requirements, or a copy of the bond to be submitted in lieu of experience.

   e. Evidence of technical ability of the manufacturer to design and manufacture products meeting Project requirements.

   f. Evidence submitted shall include, as a minimum, descriptions of engineering and manufacturing staff capabilities.

   g. A copy of the manufacturer's most recent annual business report. Include a statement comparing the present net worth of the manufacturer in comparison to the total value of all products proposed to be furnished. Net worth must exceed the total value of all products proposed.

   h. A complete description of field service capabilities, including the location of field service facilities which would serve the proposed facility and the number and qualifications of personnel working from that location.

   i. A complete list of all requirements of the Drawings and Specifications with which the manufacturer cannot conform, including reasons why alternate features are considered equivalent.

   j. If descriptive literature or drawings illustrate standard products with design features or materials not in compliance with Project requirements then these exceptions must be specifically listed. Failure to do so will indicate intent by the manufacturer to modify design features and alter materials to meet Project requirements.

k. Where additional information is submitted to supplement the submittal, all changes to the list of exceptions shall be specifically noted.

l. All other information necessary to fully evaluate the product for consideration.

5. This “or equal” submittal shall reach the Engineer no later than 14 days prior to the Bid date. Submittals which do not include a complete list of exceptions to Project requirements, or the statement “No exceptions to the Specifications will be taken”, will automatically be rejected by the Engineer. Manufacturers will be advised of approval or rejection in writing no later than 10 days prior to the Bid date. Rejected submittals may be supplemented with additional information and resubmitted no later than five days prior to the Bid date. Manufacturers making supplementary submittals will be advised of approval or rejection in writing no later than one day prior to the Bid date.

6. Bids based on products which have not received the approval of the Engineer may be determined non-responsive by the Owner and rejected.

END OF SECTION

Part 1 General

1.01 Scope

This Section covers the general cleaning which the Contractor shall be required to perform both during construction and before final acceptance of the Project unless otherwise shown on the Drawings or specified elsewhere in these Specifications.

1.02 Quality Assurance

A. Daily, and more often if necessary, conduct inspections verifying that requirements of cleanliness are being met.

B. In addition to the standards described in this Section, comply with all pertinent requirements of governmental agencies having jurisdiction.

1.03 Hazardous Material and Waste

A. The Contractor shall handle hazardous waste and materials in accordance with applicable local, state, and federal regulations. Waste shall also be disposed of in approved landfills as applicable.

B. The Contractor shall prevent accumulation of wastes which create hazardous conditions.

C. Burning or burying rubbish and waste materials on the site shall not be allowed.

D. Disposal of hazardous wastes or materials into sanitary or storm sewers shall not be allowed.

1.04 Disposal of Surplus Materials

Unless otherwise shown on the Drawings, specified or directed, the Contractor shall legally dispose off the site all surplus materials and equipment from demolition and shall provide suitable off site disposal site, or utilize a site designated by the Owner.

Part 2 Products

2.01 Cleaning Materials and Equipment

Provide all required personnel, equipment and materials needed to maintain the specified standard of cleanliness.

2.02 Compatibility

Use only the cleaning materials, methods and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Engineer.

Part 3 Execution

3.01 Progress Cleaning

A. General

1. Do not allow the accumulation of scrap, debris, waste material and other items not required for construction of this Work.

2. At least each week, and more often if necessary, completely remove all scrap, debris and waste material from the job site.

3. Provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the environment.

B. Site

1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris and waste material. Remove all such items to the place designated for their storage.

2. Restack materials stored on site weekly.

3. At all times maintain the site in a neat and orderly condition which meets the approval of the Engineer.

3.02 Final Cleaning

A. Definitions: Unless otherwise specifically specified, “clean” for the purpose of this Article shall be interpreted as the level of cleanliness generally provided by commercial building maintenance subcontractors using commercial quality building maintenance equipment and materials.

B. General: Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris and waste. Conduct final progress cleaning as described in 3.01 above.

C. Site: Unless otherwise specifically directed by the Engineer, hose down all paved areas on the site and all public sidewalks directly adjacent to the site; rake clean other surfaces of the grounds. Completely remove all resultant debris.

D. Post Construction Cleanup: All evidence of temporary construction facilities, haul roads, work areas, structures, foundations of temporary structures, stockpiles of excess or waste materials, or any other evidence of construction, as directed by the Engineer.

E. Restoration of Landscape Damage: Any landscape feature damaged by the Contractor shall be restored as nearly as possible to its original condition at the Contractor's expense. The Engineer will decide what method of restoration shall be used.

F. Timing: Schedule final cleaning as approved by the Engineer to enable the Owner to accept the Project.

3.03 Cleaning During Owner's Occupancy

Should the Owner occupy the Work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning of the occupied spaces shall be as determined by the Engineer in accordance with the Supplementary Conditions of the Contract Documents.

END OF SECTION

Part 1 General

1.01 Scope

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

B. Record documents include, but are not limited to:

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

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

1.02 Maintenance of Documents and Samples

A. Storage

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

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

C. Maintenance

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

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

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

1.03 Quality Assurance

A. Unless noted otherwise, Record Drawings shall provide dimensions, distances and coordinates to the nearest 0.1 foot.

B. Unless noted otherwise, Record Drawings shall provide elevations to the nearest 0.01 foot for all pertinent items constructed by the Contractor.

1.04 Recording

A. Label each document “Project Record” in neat, large printed letters.

B. Recording

1. Record information concurrently with construction progress.

2. Do not conceal any work until required information is recorded.

1.05 Record Drawings

A. The Contractor shall provide one set of the Contract drawings, with all changes recorded in that one set.

B. Legibly mark drawings to record actual construction, including:

1. All Construction

a. Changes of dimension and detail.

b. Changes made by Requests for Information (RFI), field order, clarification memorandums or by change order.

c. Details not on original Drawings.

1.06 Specifications

A. Legibly mark each section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

2. Changes made by Requests for Information (RFI), field order, clarification memorandums, or by change order.

1.07 Submittal

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

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

1. Date

2. Project title and number

3. Contractor's name and address

4. Title and number of each record document

5. Signature of Contractor or Contractor's authorized representative

END OF SECTION

Part 1 General

1.01 Project Maintenance and Warranty

A. Maintain and keep in good repair the Work covered by these Drawings and Specifications until acceptance by the Owner.

B. The Contractor shall warrant for a period of one year from the date of Owner's written acceptance of certain segments of the Work and/or Owner's written final acceptance of the Project, as defined in the Contract Documents, that the completed Work is free from all defects due to faulty products or workmanship and the Contractor shall promptly make such corrections as may be necessary by reason of such defects. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments or other work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The Performance Bond shall remain in full force and effect throughout the warranty period.

C. The Contractor shall not be obligated to make replacements which become necessary because of ordinary wear and tear, or as a result of improper operation or maintenance, or as a result of improper work or damage by another Contractor or the Owner, or to perform any work which is normally performed by a maintenance crew during operation.

D. In the event of multiple failures of major consequences prior to the expiration of the one year warranty described above, the affected unit shall be disassembled, inspected and modified or replaced as necessary to prevent further occurrences. All related components which may have been damaged or rendered non serviceable as a consequence of the failure shall be replaced. A new 12 month warranty against defective or deficient design, workmanship, and materials shall commence on the day that the item is reassembled and placed back into operation. As used herein, multiple failure shall be interpreted to mean two or more successive failures of the same kind in the same item or failures of the same kind in two or more items. Major failures may include, but are not limited to, cracked or broken housings, piping, or vessels, excessive deflections, bent or broken shafts, broken or chipped gear teeth, premature bearing failure, excessive wear or excessive leakage around seals. Failures which are directly and clearly traceable to operator abuse, such as operations in conflict with published operating procedures or improper maintenance, such as substitution of unauthorized replacement parts, use of incorrect lubricants or chemicals, flagrant over or under lubrication and using maintenance procedures not conforming with published maintenance instructions, shall be exempted from the scope of the one year warranty. Should multiple failures occur in a given item, all products of the same size and type shall be disassembled, inspected, modified or replaced as necessary and rewarranted for one year.

E. The Contractor shall, at Contractor's own expense, furnish all labor, materials, tools and equipment required and shall make such repairs and removals and shall perform such work or reconstruction as may be made necessary by any structural or functional defect or failure resulting from neglect, faulty workmanship or faulty materials, in any part of the Work performed by the Contractor. Such repair shall also include refilling of trenches, excavations or embankments which show settlement or erosion after backfilling or placement.

F. Except as noted on the Drawings or as specified, all structures such as embankments and fences shall be returned to their original condition prior to the completion of the Contract. Any and all damage to any facility not designated for removal, resulting from the Contractor's operations, shall be promptly repaired by the Contractor at no cost to the Owner.

G. The Contractor shall be responsible for all road and entrance reconstruction and repairs and maintenance of same for a period of one year from the date of final acceptance. In the event the repairs and maintenance are not made immediately and it becomes necessary for the owner of the road to make such repairs, the Contractor shall reimburse the owner of the road for the cost of such repairs.

H. In the event the Contractor fails to proceed to remedy the defects upon notification within 15 days of the date of such notice, the Owner reserves the right to cause the required materials to be procured and the work to be done, as described in the Drawings and Specifications, and to hold the Contractor and the sureties on Contractor's bond liable for the cost and expense thereof.

I. Notice to Contractor for repairs and reconstruction will be made in the form of a registered letter addressed to the Contractor at Contractor's home office.

J. Neither the foregoing paragraphs nor any provision in the Contract Documents, nor any special guarantee time limit implies any limitation of the Contractor's liability within the law of the place of construction.

END OF SECTION

Part 1 General

1.01 Scope

A. Clearing and grubbing includes, but is not limited to, removing from the Project site, trees, stumps, roots, brush, structures, abandoned utilities, trash, debris and all other materials found on or near the surface of the ground in the construction area and understood by generally accepted engineering practice not to be suitable for construction of the type contemplated. Precautionary measures that prevent damage to existing features including trees, to remain is part of the Work.

B. Clearing and grubbing operations shall be coordinated with temporary and permanent erosion and sedimentation control procedures.

1.02 Quality Assurance

A. The Contractor shall comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction over the Project. All required permits of a temporary nature shall be obtained for construction operations by the Contractor.

1.03 Job Conditions

Location of the Work: The area to be cleared and grubbed is shown schematically on the Drawings or specified below. It includes all areas designated for construction.

Part 2 Products

2.01 Equipment

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

Part 3 Execution

3.01 Scheduling of Clearing

A. The Contractor shall clear at each construction site only that length of the right-of-way, permanent or construction easement which would be the equivalent of two week’s pipe laying. This length shall be determined from the Contractor's Progress Schedule.

B. The Engineer may permit clearing for additional lengths of the pipe line provided that temporary erosion and sedimentation controls are in place and a satisfactory stand of temporary grass is established. Should a satisfactory stand of grass not be possible, no additional clearing shall be permitted beyond that specified above.

C. A satisfactory stand of grass shall have no bare spots larger than one square yard. Bare spots shall be scattered and the bare area shall not comprise more than one percent of any given area.

3.02 Clearing and Grubbing

A. Clear and grub no more than 3 feet on each side of the pipeline before excavating. Remove all trees, growth, debris, stumps and other objectionable matter. Clear the construction easement or road right-of-way only if necessary.

B. Materials to be cleared, grubbed and removed from the Project site include, but are not limited to, all trees, stumps, roots, brush, trash, organic matter, paving, miscellaneous structures, houses, debris and abandoned utilities.

C. Grubbing shall consist of completely removing roots, stumps, trash and other debris from all graded areas so that topsoil is free of roots and debris. Topsoil is to be left sufficiently clean so that further picking and raking will not be required.

D. All stumps, roots, foundations and planking embedded in the ground shall be removed and disposed of. Piling and butts of utility poles shall be removed to a minimum depth of two feet below the limits of excavation for structures, trenches and roadways or two feet below finish grade, whichever is lower.

E. Landscaping features shall include, but are not necessarily limited to, fences, cultivated trees, cultivated shrubbery, property corners, man-made improvements, subdivision and other signs within the right-of-way and easement. The Contractor shall take extreme care in moving landscape features and promptly re-establishing these features.

F. Surface rocks and boulders shall be grubbed from the soil and removed from the site if not suitable as rip rap.

G. Where the tree limbs interfere with utility wires, or where the trees to be felled are in close proximity to utility wires, the tree shall be taken down in sections to eliminate the possibility of damage to the utility.

H. Any work pertaining to utility poles shall comply with the requirements of the appropriate utility.

I. All fences adjoining any excavation or embankment that, in the Contractor's opinion, may be damaged or buried, shall be carefully removed, stored and replaced. Any fencing that, in the Engineer's opinion, is significantly damaged shall be replaced with new fence material.

J. The Contractor shall exercise special precautions for the protection and preservation of trees, cultivated shrubs, sod, fences, etc. situated within the limits of the construction area but not directly within excavation and/or fill limits. The Contractor shall be held liable for any damage the Contractor's operations have inflicted on such property.

K. The Contractor shall be responsible for repairs and/or replacement of all damages to existing improvements resulting from Contractor's operations.

3.03 Disposal of Debris

A. The debris resulting from the clearing and grubbing operation shall be hauled to a disposal site secured by the Contractor and shall be disposed of in accordance with all requirements of federal, state, county and municipal regulations. No debris of any kind shall be deposited in any stream or body of water, or in any street or alley. No debris shall be deposited upon any private property except

with written consent of the property owner. In no case shall any material or debris be left on the Project, shoved onto abutting private properties or buried on the Project.

END OF SECTION

Part 1 General

1.01 Scope

A. The Work specified in this Section consists of providing and maintaining temporary and permanent erosion and sedimentation controls as shown on the Drawings. This Section also specifies the subsequent removal of temporary erosion and sedimentation controls.

B. Temporary and permanent erosion and sedimentation controls include grassing and mulching of disturbed areas and structural barriers at those locations which will ensure that erosion during construction will be maintained within acceptable limits. Acceptable limits are as established by the Georgia Erosion and Sedimentation Control Act of 1975, as amended, Section 402 of the Federal Clean Water Act, and applicable codes, ordinances, rules, regulations, and laws of local, state, and municipal authorities having jurisdiction.

C. Land disturbance activity shall not commence until the Land Disturbance Permit has been issued.

1.02 Submittals

A. Submit product data in accordance with the requirements of Section 01340 of these Specifications.

B. At the Pre Construction Conference, the Contractor shall submit, for the Engineer's approval, a schedule for the accomplishment of temporary and permanent erosion and sedimentation control work. No work shall be started until the erosion and sedimentation control schedule and methods of operation have been approved by the Engineer.

1.03 Quality Assurance

A. The temporary and permanent erosion and sedimentation control measures shown on the Drawings are minimum suggested requirements. Any additional erosion and sedimentation control measures required by the Contractor's means, methods, techniques, and sequence of operation will be installed by the Contractor at no additional cost to the Owner.

B. Perform all Work under this Section in accordance with all pertinent rules and regulations including, but not necessarily limited to, those stated in these Specifications. Where provisions of pertinent rules and regulations conflict with these Specifications the more stringent provisions shall govern.

C. Provide all materials and promptly take all actions necessary to achieve effective erosion and sedimentation control in accordance with the Georgia Erosion and Sedimentation Control Act of 1975 as amended (OCGA §12-7-1, et. seq.), local ordinances, other permits, local enforcing agency guidelines, and these Specifications.

D. Basic Principles:

1. Coordinate the land disturbance activities to fit the topography, soil types, and conditions.

2. Minimize the disturbed area and the duration of exposure to erosive elements.

3. Provide temporary or permanent stabilization to disturbed areas immediately after rough grading is complete.

4. Safely convey run-off from the site to a stable outlet to prevent flooding and damage to downstream facilities resulting from increased runoff from the site.

5. Retain sediment on-site that was generated on-site.

6. Minimize encroachment upon watercourses.

E. Implementation:

1. The Contractor is solely responsible for the control of erosion within the Project site and the prevention of sedimentation from leaving the Project site or entering waterways.

2. The Contractor shall install temporary and permanent erosion and sedimentation controls which will ensure that runoff from the disturbed area of the Project site shall pass through a filter system before exiting the Project site.

3. The Contractor shall provide temporary and permanent erosion and sedimentation control measures to prevent silt and sediment from entering the waterways and designated wetland areas. The Contractor shall maintain an undisturbed vegetative buffer a minimum of 25 feet from the top of the bank.

4. The Contractor shall limit land disturbance activity to those areas shown on the Drawings.

5. The Contractor shall maintain erosion and sedimentation control measures within disturbed areas on the entire site at no additional cost to the Owner until the final acceptance of the Project. Maintenance shall include mulching, re-seeding, clean-out of sediment barriers and sediment ponds, replacement of washed-out or undermined rip rap and erosion control materials, to the satisfaction of the Owner and Engineer.

6. All fines imposed for improper erosion and sedimentation control shall be paid by the Contractor.

Part 2 Products

2.01 Sediment Barrier

A. Silt Fence:

1. Type A silt fence shall meet the requirements of Section 171 of the Georgia Department of Transportation Standard Specifications, latest edition.

2. Type C Silt Fence is a combination of Type A silt Fence with woven wire reinforcement. Type C Silt Fence reinforcement shall meet the requirements of Section 171 of Georgia D.O.T. Specifications.

3. Silt fence fabric shall be an approved product on the Georgia DOT Qualified Product List No. 36, latest edition.

B. Hay Bales: Hay bales shall be clean, seed-free cereal hay, rectangular in shape, and contain five cubic feet or more of material.

C. Concrete Blocks: Concrete blocks shall be hollow, non-load-bearing type.

2.02 Construction Exit Stone

Use sound, tough, durable stone resistant to the action of air and water. Slabby or shaley pieces will not be acceptable. Aggregate size shall be in accordance with the National Stone Association Size R-2 (1.5 to 3.5-inch stone) or Type 3 rip rap stone conforming to Section 805.01 of the Georgia Department of Transportation Standard Specifications.

2.03 Rip Rap

A. Stone Rip Rap: Use sound, tough, durable stones resistant to the action of air and unless noted otherwise, stone rip rap shall be Type 1.

1. Type 1 Rip Rap: Rip rap size and gradation shall conform to Section 805.01 of the Georgia Department of Transportation Standard Specification for Type 1 Stone Dumped Rip Rap.

2. Type 3 Rip Rap: Rip rap size and gradation shall conform to Section 805.01 of the Georgia Department of Transportation Standard Specifications for Type 3 Stone Dumped Rip Rap.

B. Sand Cement Bag Rip Rap: Sand cement bag rip rap shall conform to the Georgia Department of Transportation Standard Specifications, Section 603.

2.04 Plastic Filter Fabric

A. Plastic filter fabric shall conform to the Georgia Department of Transportation Standard Specifications, Section 881, for filter fabrics.

B. Plastic filter fabric shall be an approved product on the Georgia Department of Transportation Qualified Product List No. 28, latest edition.

2.05 Grassing

A. Grassing materials shall meet the requirements of the Georgia Department of Transportation Standard Specifications, latest edition; as shown in the table:

Material	Section No.
Topsoil	893.01
Seed and Sod	890
Fertilizer	891.01
Agricultural Lime	882.02
Mulch	893.02
Inoculants	893.04

B. Seed species shall be provided as shown on the Drawings.

C. Mulch Binder: Mulch on slopes exceeding 3 (horizontal) to 1 (vertical) shall be held in place by the use of a mulch binder, as approved by the Engineer. The mulch binder shall be non-toxic to plant and animal life and shall be approved by the Engineer.

D. Water: Water shall be free of excess and harmful chemicals, organisms, and substances which may be harmful to plant growth or obnoxious to traffic. Salt or brackish water shall not be used. Water shall be furnished by the Contractor.

Part 3 Execution

3.01 General

A. Temporary and permanent erosion and sedimentation control measures shall prevent erosion and prevent sediment from exiting the site. If, in the opinion of the Owner, Engineer, or state inspector, the Contractor's temporary erosion and sedimentation control measures are inadequate, the Contractor shall provide additional maintenance for existing measures or additional devices to control erosion and sedimentation on the site at no additional cost to the Owner.

B. All erosion and sedimentation control devices and structures shall be inspected by the Contractor at least once a week and immediately after each rainfall occurrence. Any device or structure found to be damaged shall be repaired or replaced by the end of the day.

C. All erosion and sedimentation control measures and devices shall be constructed and maintained as indicated on the Drawings or specified herein until adequate permanent disturbed area stabilization has been provided and accepted by the Engineer. Once adequate permanent stabilization has been provided and accepted by the Engineer, all temporary erosion and sedimentation control structures and devices shall be removed.

3.02 Sediment Control

A. Construction Exit:

1. Construction exit(s) shall be placed as shown on the Drawings and as directed by the Engineer. A construction exit shall be located at any point traffic will be leaving a disturbed area to a public right-of-way, street, alley, sidewalk, or parking area.

2. Placement of Construction Exit Material: The ground surface upon which the construction exit material is to be placed shall be prepared to a smooth condition free from obstructions, depressions or debris. The plastic filter fabric shall be placed to provide a minimum number of overlaps and a minimum width of one foot of overlap at each joint. The stone shall be placed with its top elevation conforming to the surrounding ground elevations. The stone shall be dropped from no more than a three feet height during construction.

3. Construction Exit Maintenance: The Contractor shall regularly maintain the exit with the top dressing of stone to prevent tracking or flow of soil onto public rights-of-way and paved surfaces as directed by the Engineer.

4. Construction Exit Removal: Construction exit(s) shall be removed and properly disposed of when the disturbed area has been properly stabilized, the tracking or flow of soil onto public rights-of-way or paved surfaces has ceased and as directed by the Engineer.

B. Sediment Barriers:

1. Sediment barriers shall include, but are not necessarily limited to, silt fences, hay bales, and any device which prevents sediment from exiting the disturbed area.

2. Silt fences and hay bales shall not be used in any flowing stream, creek, or river.

3. Sediment barriers shall be installed as shown on the Drawings and as directed by the Owner or Engineer.

4. Sediment barriers shall be maintained to ensure the depth of impounded sediment is no more than one-half of the original height of the barrier or as directed by the Engineer. Torn, damaged, destroyed, or washed-out barriers shall be repaired, reinforced, or replaced with new material and installed as shown on the Drawings and as directed by the Owner or Engineer.

5. Accumulated sediment shall be removed from the barrier and replaced and stabilized on-site as directed by the Owner or Engineer.

6. Sediment barrier shall be removed once the disturbed area has been stabilized with a permanent vegetative cover and the sediment barrier is no longer required as directed by the Engineer.

7. All non-biodegradable parts of the barrier shall be disposed of properly.

8. The disturbed area created by barrier removal shall be permanently stabilized.

C. Sediment Boxes: All inlet grates shall be covered with sediment boxes during grading operations and shall remain so covered until all open areas are permanently stabilized against erosion.

3.03 Erosion Control

A. Rip Rap

1. Rip rap shall be placed as shown on the Drawings and as directed by the Engineer. Rip rap shall be placed at all points where natural vegetation is disturbed on the banks of active streams. Compact backfill and place rip rap to prevent subsequent settlement and erosion. This requirement applies equally to construction alongside a stream as well as crossing a stream or drainage ditch.

2. When trenching across a stream or drainage ditch, place rip rap over the entire disturbed area upstream and downstream of the trench excavation. Place rip rap across creek bottom, across creek banks, and extend rip rap placement five feet beyond the top of each creek bank.

3. Preparation of Foundations: The ground surface upon which the rip rap is to be placed shall be brought to the correct lines and grades before placement is commenced. Where filling of depressions is required, the new material shall be compacted with hand or mechanical tampers. Unless at creek banks or otherwise shown or specified, rip rap shall begin in a toe ditch constructed in original ground around the toe of the fill or the cut slope. The toe ditch shall be two feet deep in original ground, and the

and the side next to the fill or cut shall have that same slope. After the rip rap is placed, the toe ditch shall be backfilled and the excess dirt spread neatly on the site.

4. Placement of Plastic Filter Fabric:

   a. Plastic filter fabric shall be placed under all rip rap unless shown or specified otherwise.

   b. Filter fabric shall not be placed under rip rap on stream or drainage ditch crossings.

   c. The surface to receive filter fabric shall be prepared to a smooth condition free from obstructions, depressions, and debris. The filter fabric shall be installed with the long dimension running up the slope and shall be placed to provide a minimum number of overlaps. The fabric shall be placed to provide a minimum width of one foot of overlap at each joint. The fabric shall be placed so that the upstream strip overlaps the downstream strip. The fabric shall be anchored in place with securing pins of the type recommended by the fabric manufacturer. Pins shall be placed on or within 3-inches of the centerline of the overlap. The fabric shall be placed loosely to avoid stretching and tearing during placement of the stone. The fabric shall be protected at all times during construction from clogging due to clay, silts, chemicals, or other contaminants. Contaminated fabric or fabric damaged during installation or during placement of rip rap shall be removed and replaced with uncontaminated and undamaged fabric at no additional cost to the Owner.

5. Placement of Rip Rap: Rip rap shall be placed on a 6-inch layer of soil, crushed stone or sand overlaying the filter fabric. Rip rap shall be placed with its top elevation conforming with the finished grade or the natural existing slope of the stream bank and stream bottom. The stone shall be dropped from no more than a three foot height during construction. Stone rip rap shall be placed to provide a uniform surface to the thickness shown on the Drawings. The thickness tolerance for the course shall be –3 inches and +6 inches.

   a. Stone Rip Rap: Stone rip rap shall be placed to provide a uniform surface a minimum of 18 inches thick. The thickness tolerance for the course shall be 3 inches and +6 inches.

   b. Sand Cement Bag Rip Rap: The bags shall be uniformly filled to the maximum capacity which will permit satisfactory closure. The bagged rip rap shall be placed by hand with the tied ends facing the same direction, with close, broken joints. When directed by the Engineer or required by the Drawings, header courses shall be placed. After placing, the bags shall be rammed or packed against one another to produce the required thickness and form a consolidated mass. The top of each bag shall not vary more than 3 inches above or below the required plane.

B. Grassing:

1. Temporary Stabilization: Temporary stabilization shall be provided as shown on the Drawings and conforming to these Specifications to control erosion on the site. Temporary stabilization shall be provided to any area

that will not receive permanent stabilization within the next 14 calendar days. Partial payment requests may be withheld for those portions of the Project not complying with this requirement.

2. Permanent Stabilization:

   a. Permanent stabilization shall be provided as shown on the Drawings and conforming to these Specifications to control erosion on the site. Permanent stabilization shall be provided to all areas of land disturbance within seven calendar days of the completion of land disturbance for any area greater than 0.25 acre.

   b. Where permanent stabilization cannot be immediately established because of an inappropriate season, the Contractor shall provide temporary stabilization. The Contractor shall return to the site at the appropriate season to provide permanent stabilization in areas that received only temporary stabilization.

3. Grassing shall meet the requirements of Section 700 of the Georgia Department of Transportation Standard Specifications, latest edition, unless specified otherwise.

4. Seed rate, fertilization and other requirements shall be provided as shown on the Drawings.

3.04 Clean-Up

A. Dispose of all excess erosion and sedimentation control materials in a manner satisfactory to the Owner and Engineer.

B. Final clean-up shall be performed in accordance with the requirements of these Specifications and to the satisfaction of the Owner and Engineer.

END OF SECTION

Part 1 General

1.01 Scope

A. The work under this Section consists of furnishing all labor, equipment and materials and performing all operations in connection with the trench excavation and backfill required to install the water mains as shown on the Drawings and as specified.

B. Excavation shall include the removal of any trees, stumps, brush, debris or other obstacles which remain after the clearing and grubbing operations, which may obstruct the work, and the excavation and removal of all earth, rock or other materials to the extent necessary to install the water main and appurtenances in conformance with the lines and grades shown on the Drawings and as specified.

C. Backfill shall include the refilling and compaction of the fill in the trenches and excavations up to the surrounding ground surface or road grade at crossing.

D. The trench is divided into five specific areas:

1. Foundation: The area beneath the bedding, sometimes also referenced to as trench stabilization.

2. Bedding: The area above the trench bottom (or foundation) and below the bottom of the barrel of the pipe.

3. Haunching: The area above the bottom of the barrel of the pipe up to a specified height above the bottom of the barrel of the pipe.

4. Initial Backfill: The area above the haunching material and below a plane 18 inches above the top of the barrel of the pipe.

5. Final Backfill: The area above a plane 18-inches above the top of the barrel of the pipe.

E. The choice of method, means, techniques and equipment rests with the Contractor. The Contractor shall select the method and equipment for trench excavation and backfill depending upon the type of material to be excavated and backfilled, the depth of excavation, the amount of space available for operation of equipment, storage of excavated material, proximity of man-made improvements to be protected, available easement or right-of-way and prevailing practice in the area.

1.02 Quality Assurance

A. Density: All references to “maximum dry density” shall mean the maximum dry density defined by the “Maximum Density-Optimum Moisture Test”, ASTM D 698, except that for non-cohesive materials “maximum dry density” shall mean the maximum index density as determined by the “Maximum Index Density of Soils Using a Vibratory Table”, ASTM D 4253. Determination of the density of foundation, bedding, haunching, or backfill materials in place shall meet with the requirements of ASTM D 1556, “Density of Soil In Place by the Sand Cone Method”, ASTM D 2937, “Density of Soil In Place by the Drive-Cylinder Method” or ASTM D 2922, “Density of Soil and Soil-Aggregate In Place by Nuclear Methods

Methods (Shallow Depth)".

B. Sources and Evaluation Testing: Testing of materials to certify conformance with the Specifications shall be performed by an independent testing laboratory in accordance with Section 01410 of these Specifications. All imported fill materials shall meet the requirements of on-site fill materials.

1.03 Safety

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

Part 2 Products

2.01 Trench Foundation Materials

Crushed stone shall be utilized for trench foundation (trench stabilization) and shall meet the requirements of the Georgia Department of Transportation Specification 800.2.01, Group I (limestone, marble or dolomite) or Group II (quartzite, granite or gneiss). Stone size shall be between No. 57 and No. 4, inclusive.

2.02 Bedding and Haunching Materials

A. Unless specified otherwise, bedding and haunching materials shall be crushed stone as specified below.

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

C. Earth materials utilized for bedding and haunching shall be suitable materials selected from materials excavated from the trench. Suitable materials shall be clean and free of rock larger than 2-inches at its largest dimension, organics, cinders, stumps, limbs, frozen earth or mud, man-made wastes and other unsuitable materials. Should the material excavated from the trench be saturated, the saturated material may be used as earth material, provided it is allowed to dry properly and it is capable of meeting the specified compaction requirements. When necessary, earth bedding and haunching materials shall be moistened to facilitate compaction by tamping. If materials excavated from the trench are not suitable for use as bedding or haunching material, provide select material conforming to the requirements of this Section at no additional cost to the Owner.

D. Filter Fabric Woven Type

1. Filter fabric associated with bedding shall be a polypropylene woven fabric. The fabric shall be a high modulus type with good separation capabilities. The fabric shall be inert to biological degradation and naturally occurring chemicals, alkalies and acids.

2. The fabric shall have an equivalent opening size EOS of 20 to 45. The fabric shall also conform to the minimum property values listed in the following table:

Fabric Property	Unit	Test Method	Minimum Value
Grab Tensile Strength	lbs.	ASTM D 4632	200
Grab Tensile Elongation	%	ASTM D 4632	30 (max.)
Mullen Burst Strength	psi	ASTM D 3786	400
Trapezoid Tear Strength	lbs.	ASTM D 4533	75
Puncture Strength	lbs.	ASTM D 3787	75

3. If ordered by the Engineer, the filter fabric manufacturer shall furnish the services of a competent factory representative to supervise and/or inspect the installation of pipe. This service will be furnished for a minimum of 10 days during initial pipe installation.

4. Filter fabric shall be Mirafi 500X, Amoco 2002 or Exxon GTF-200.

2.03 Initial Backfill

A. Initial backfill material shall be crushed stone or earth materials as specified for bedding and haunching materials.

B. When necessary, initial backfill materials shall be moistened to facilitate compaction by tamping. If materials excavated from the trench are not suitable for use as initial backfill material, provide select material conforming to the requirements of this Section at no additional cost to the owner.

2.04 Final Backfill

Final backfill material shall be general excavated earth materials, shall not contain rock larger than 2-inches at its greatest diameter, cinders, stumps, limbs, man-made wastes and other unsuitable materials. If materials excavated from the trench are not suitable for use as final backfill material, provide select material conforming to the requirements of this Section.

2.05 Select Backfill

Select backfill shall be materials which meet the requirements as specified for bedding, haunching or initial backfill materials, including compaction requirements.

2.06 Concrete

Concrete for bedding, haunching, initial backfill or encasement shall have a compressive strength of not less than 3,000 psi, with not less than 5.5 bags of cement per cubic yard and a slump between 3 and 5-inches. Ready-mixed

concrete shall be mixed and transported in accordance with ASTM C 94. Reinforcing steel shall conform to the requirements of ASTM A 615, Grade 60.

Part 3 Execution

3.01 Trench Excavation

A. Topsoil and grass shall be stripped a minimum of 6-inches over the trench excavation site and stockpiled separately for replacement over the finished grading areas.

B. Trenches shall be excavated to the lines and grades shown on the Drawings with the centerlines of the trenches on the centerlines of the pipes and to the dimensions which provide the proper support and protection of the pipe and other structures and accessories.

C. Trench Width for Pipelines

1. The sides of all trenches shall be vertical to a minimum of one foot above the top of the pipe. Unless otherwise indicated on the Drawings, the maximum trench width shall be equal to the sum of the outside diameter of the pipe plus two feet. The minimum trench width shall be that which allows the proper consolidation of the haunching and initial backfill material.

2. Excavate the top portion of the trench to any width within the construction easement or right-of-way which will not cause unnecessary damage to adjoining structures, roadways, pavement, utilities, trees or private property. Where necessary to accomplish this, provide sheeting and shoring.

3. Where rock is encountered in trenches, excavate to remove boulders and stones to provide a minimum of 9-inches clearance between the rock and any part of the pipe barrel or manhole.

4. Wherever the prescribed maximum trench width is exceeded, the Contractor shall use the next higher Class or Type of bedding and haunching as shown on the Drawings for the full trench width as actually cut. The excessive trench width may be due to unstable trench walls, inadequate or improperly placed bracing and sheeting which caused sloughing, accidental over-excavation, intentional over-excavation necessitated by the size of the Contractor's tamping and compaction equipment, intentional over-excavation due to the size of the Contractor's excavation equipment, or other reasons beyond the control of the Engineer or Owner.

D. Depth

1. The trenches shall be excavated to the required depth or elevation which allow for the placement of the pipe and bedding to the dimensions shown on the Drawings.

2. Where rock is encountered in trenches for pipelines, excavate to the minimum depth which will provide clearance below the pipe barrel of 8-inches for pipe 21-inches in diameter and smaller and 12-inches for larger pipe, valves and manholes.

E. Excavated Materials

1. Excavated materials shall be placed adjacent to the work to be used for backfilling as required. Top soil shall be carefully separated and lastly placed in its original location.

2. Excavated material shall be placed sufficiently back from the edge of the excavation to prevent caving of the trench wall, to permit safe access along the trench and not cause any drainage problems. Excavated material shall be placed so as not to damage existing landscape features or man-made improvements.

3.02 Sheeting, Bracing and Shoring

A. Sheeting, bracing and shoring shall be installed in the following instances:

1. Where sloping of the trench walls does not adequately protect persons within the trench from slides or cave-ins.

2. In caving ground.

3. In wet, saturated, flowing or otherwise unstable materials.

4. Where necessary to prevent damage to adjoining buildings, structures, roadways, pavement, utilities, trees or private properties which are required to remain.

5. Where necessary to maintain the top of the trench within the available construction easement or right-of-way.

B. In all cases, excavation protection shall strictly conform to the requirements of the Occupational Safety and Health Act of 1970, as amended.

C. Timber: Timber for shoring, sheeting, or bracing shall be sound and free of large or loose knots and in good, serviceable condition. Size and spacing shall be in accordance with OSHA regulations.

D. Steel Sheeting and Sheet Piling: Steel sheet piling shall be the continuous interlock type. The weight, depth and section modulus of the sheet piling shall be sufficient to restrain the loads of earth pressure and surcharge from existing foundations and live loads. Procedure for installation and bracing shall be so scheduled and coordinated with the removal of the earth that the ground under existing structures shall be protected against lateral movement at all times. The Contractor shall provide closure and sealing between sheet piling and existing facilities.

E. Trench Shield: A trench shield or box may be used to support the trench walls. The use of a trench shield does not necessarily preclude the additional use of bracing and sheeting. When trench shields are used, care must be taken to avoid disturbing the alignment and grade of the pipe or disrupting the haunching of the pipe as the shield is moved. When the bottom of the trench shield extends below the top of the pipe, the trench shield will be raised in 6-inch increments with specified backfilling occurring simultaneously. At no time shall the trench shield

be “dragged” with the bottom of the shield extending below the top of the pipe or utility.

F. Remove bracing and sheeting in units when backfill reaches the point necessary to protect the pipe and adjacent property. Leave sheeting in place when in the opinion of the Engineer it cannot be safely removed or is within three feet of an existing structure, utility, or pipeline. Cut off any sheeting left in place at least two feet below the surface.

G. Sheet piling within three feet of an existing structure or pipeline shall remain in place, unless otherwise directed by the Engineer.

3.03 Rock Excavation

A. Definition of Rock: Any material which cannot be excavated with conventional excavating equipment, and is removed by drilling and blasting, and occupies an original volume of at least one-half cubic yard.

B. Blasting: Provide licensed, experienced workmen to perform blasting. Conduct blasting operations in accordance with all existing ordinances and regulations. Protect all buildings and structures from the effects of the blast. Repair any resulting damage. If the Contractor repeatedly uses excessive blasting charges or blasts in an unsafe or improper manner, the Engineer may direct the Contractor to employ an independent blasting consultant to supervise the preparation for each blast and approve the quantity of each charge.

C. Removal of Rock: Dispose of rock off site that is surplus or not suitable for use as rip rap or backfill.

D. The Contractor shall notify the Engineer prior to any blasting. Additionally, the Contractor shall notify the Engineer and local fire department before any charge is set.

E. Following review by the Engineer regarding the proximity of permanent buildings and structures to the blasting site, the Engineer may direct the Contractor to employ an independent, qualified specialty sub- contractor, approved by the Engineer, to monitor the blasting by use of seismograph, identify the areas where light charges must be used, conduct pre-blast and post-blast inspections of structures, including photographs or videos, and maintain a detailed written log.

3.04 Dewatering Excavations

A. Dewater excavation continuously to maintain a water level two feet below the bottom of the trench.

B. Control drainage in the vicinity of excavation so the ground surface is properly pitched to prevent water running into the excavation.

C. There shall be sufficient pumping equipment, in good working order, available at all times, to remove any water that accumulates in excavations. Where the utility crosses natural drainage channels, the work shall be conducted in such a manner that unnecessary damage or delays in the prosecution of the work will be prevented. Provision shall be made for the satisfactory disposal of surface water to prevent damage to public or private property.

D. In all cases, accumulated water in the trench shall be removed before placing bedding or haunching, laying pipe, placing concrete or backfilling.

E. Where dewatering is performed by pumping the water from a sump, crushed stone shall be used as the medium for conducting the water to the sump. Sump depth shall be at least two feet below the bottom of the trench. Pumping equipment shall be of sufficient quantity and/or capacity to maintain the water level in the sump two feet below the bottom of the trench. Pumps shall be a type such that intermittent flows can be discharged. A standby pump shall be required in the event the operating pump or pumps clog or otherwise stop operation.

F. Dewater by use of a well point system when pumping from sumps does not lower the water level two feet below the trench bottom. Where soil conditions dictate, the Contractor shall construct well points cased in sand wicks. The casing, 6 to 10-inches in diameter, shall be jetted into the ground, followed by the installation of the well point, filling casing with sand and withdrawing the casing.

3.05 Trench Foundation and Stabilization

A. The bottom of the trench shall provide a foundation to support the pipe and its specified bedding. The trench bottom shall be graded to support the pipe and bedding uniformly throughout its length and width.

B. If, after dewatering as specified above, the trench bottom is spongy, or if the trench bottom does not provide firm, stable footing and the material at the bottom of the trench will still not adequately support the pipe, the trench will be determined to be unsuitable and the Engineer shall then authorize payment for trench stabilization.

C. Should the undisturbed material encountered at the trench bottom constitute, in the opinion of the Engineer, an unstable foundation for the pipe, the Contractor shall be required to remove such unstable material and fill the trench to the proper subgrade with crushed stone as directed by the Engineer.

D. Where the replacement of unsuitable material with crushed stone does not provide an adequate trench foundation, the trench bottom shall be excavated to a depth of at least two feet below the specified trench bottom. Place filter fabric in the bottom of the trench and support the fabric along the trench walls until the trench stabilization, bedding, haunching and pipe have been placed at the proper grade. The ends of the filter fabric shall be overlapped by one foot above the pipe.

E. Where trench stabilization is provided, the trench stabilization material shall be compacted to at least 90 percent of the maximum dry density, unless shown or specified otherwise.

3.06 Bedding and Haunching

A. Prior to placement of bedding material, the trench bottom shall be free of any water, loose rocks, boulders or large dirt clods.

B. Bedding material shall be placed to provide uniform support along the bottom of the pipe and to place and maintain the pipe at the proper elevation. The initial

layer of bedding placed to receive the pipe shall be brought to the grade and dimensions indicated on the Drawings. All bedding shall extend the full width of the trench bottom. The pipe shall be placed and brought to grade by tamping the bedding material or by removal of the excess amount of the bedding material under the pipe. Adjustment to grade line shall be made by scraping away or filling with bedding material. Wedging or blocking up of pipe shall not be permitted. Applying pressure to the top of the pipe, such as with a backhoe bucket, to lower the pipe to the proper elevation or grade shall not be permitted. Each pipe section shall have a uniform bearing on the bedding for the length of the pipe, except immediately at the joint.

C. At each joint, excavate bell holes of ample depth and width to permit the joint to be assembled properly and to relieve the pipe bell of any load.

D. After the pipe section is properly placed, add the haunching material to the specified depth. The haunching material shall be shovel sliced, tamped, vigorously chinked or otherwise consolidated to provide uniform support for the pipe barrel and to fill completely the voids under the pipe, including the bell hole. Prior to placement of the haunching material, the bedding shall be clean and free of any water, loose rocks, boulders or dirt clods.

E. Manholes: Excavate to a minimum of 12-inches below the planned elevation of the base of the manhole. Place and compact crushed stone bedding material to the required grade before installing the manhole.

F. Water Mains

1. Ductile Iron Pipe

a. Unless otherwise shown on the Drawings or specified, utilize earth materials for bedding and haunching. Type 2, 3, 4 and 5 bedding shall be as detailed on the Drawings.

b. Unless specified or shown otherwise, bedding shall meet the requirements for Type 2 Pipe Bedding. Unless specified or shown otherwise for restrained joint pipe and fittings, bedding shall meet the requirements for Type 3 Pipe Bedding.

c. Where the depth of cover over the piping exceeds 9 feet, the pipe bedding shall meet the requirements of Type 4 Pipe Bedding. Where the depth of cover over the piping exceeds 14 feet, the pipe bedding shall meet the requirements of Type 5 Pipe Bedding.

d. Type 4 or Type 5 Pipe Bedding called for on the Drawings, specified or ordered by the Engineer, shall meet requirements for Type 4 or Type 5 Pipe Bedding, utilizing crushed stone bedding and haunching material.

G. Excessive Width and Depth

1. Water Mains: If the trench is excavated to excess width, provide the next higher type or class of pipe bedding, but a minimum of Type 4, as detailed on the Drawings.

2. If the trench is excavated to excessive depth, provide crushed stone to place the bedding at the proper elevation or grade.

H. Compaction: Bedding and haunching materials under pipe, manholes and accessories shall be compacted to a minimum of 90 percent of the maximum dry density, unless shown or specified otherwise.

3.07 Initial Backfill

A. Initial backfill shall be placed to anchor the pipe, protect the pipe from damage by subsequent backfill and ensure the uniform distribution of the loads over the top of the pipe.

B. Place initial backfill material carefully around the pipe in uniform layers to a depth of at least 18-inches above the pipe barrel or duct bank. Layer depths shall be a maximum of 6-inches for pipe 18-inches in diameter and smaller and a maximum of 12-inches for pipe larger than 18-inches in diameter.

C. Backfill on both sides of the pipe simultaneously to prevent side pressures.

D. Compact each layer thoroughly with suitable hand tools or tamping equipment.

E. Initial backfill shall be compacted to a minimum 90 percent of the maximum dry density, unless shown or specified otherwise.

F. If materials excavated from the trench are not suitable for use as backfill materials, provide select backfill material conforming to the requirements of this Section.

3.08 Final Backfill

A. Backfill carefully to restore the ground surface to its original condition.

B. The top 6-inches shall be topsoil obtained as specified in “Trench Excavation” of this Section.

C. Excavated material which is unsuitable for backfilling, and excess material, shall be disposed of, at no additional cost to the Owner, in a manner approved by the Engineer. Surplus soil may be neatly distributed and spread over the site, if approved by the Engineer. If such spreading is allowed, the site shall be left in a clean and sightly condition and shall not affect pre-construction drainage patterns. Surplus rock from the trenching operations shall be removed from the site.

D. If materials excavated from the trench are not suitable for use as backfill materials, provide select backfill material conforming to the requirements of this Section.

E. After initial backfill material has been placed and compacted, backfill with final backfill material. Place backfill material in uniform layers, compacting each layer thoroughly as follows:

1. In 6-inch layers, if using light power tamping equipment, such as a “jumping jack”.

2. In 12-inch layers, if using heavy tamping equipment, such as hammer with tamping feet.

3. In 24-inch layers, if using a hydra-hammer.

F. Settlement: If trench settles, re-fill and grade the surface to conform to the adjacent surfaces.

G. Final backfill shall be compacted to a minimum 90 percent of the maximum dry density, unless specified otherwise.

3.09 Additional Material

Where final grades above the pre-construction grades are required to maintain minimum cover, additional fill material will be as shown on the Drawings. Utilize excess material excavated from the trench, if the material is suitable. If excess excavated materials are not suitable, or if the quantity available is not sufficient, provide additional suitable fill material at no cost to the owner.

3.10 Backfill Under Roads

Compact backfill underlying pavement and sidewalks, and backfill under dirt and gravel roads to a minimum 95 percent of the maximum dry density. The top 12-inches shall be compacted to a minimum of 98 percent of the maximum dry density.

3.11 Backfill Within Georgia DOT Right-of-Way

Backfill within the Georgia DOT right-of-way shall meet the requirements stipulated in the “Utility Accommodation Policy and Standards”, published by the Georgia Department of Transportation.

3.12 Backfill Along Restrained Joint Pipe

Backfill along restrained joint pipe shall be compacted to a minimum 90 percent of the maximum dry density.

3.13 Detection Tape

The detection tape shall be buried 4 to 10-inches beneath the ground surface directly over the top of the pipe. Should detection tape need to be installed deeper, the Contractor shall provide 3-inch wide tape. In no case shall detection tape be buried greater than 20-inches from the finished grade surface.

3.14 Testing and Inspection

A. The soils testing laboratory is responsible for the following:

1. Compaction tests in accordance with Article 1.02 of this Section.

2. Field density tests for each two feet of lift, one test for each 1,000 feet of pipe installed or more frequently if ordered by the Engineer.

3. Inspecting and testing stripped site, subgrades and proposed fill materials.

B. The Contractor's duties relative to testing include:

1. Notifying laboratory of conditions requiring testing.

2. Coordinating with laboratory for field testing.

3. Paying costs for additional testing performed beyond the scope of that required and for re-testing where initial tests reveal non-conformance with specified requirements.

4. Providing excavation as necessary for laboratory personnel to conduct tests.

C. Inspection

1. Earthwork operations, acceptability of excavated materials for bedding or backfill, and placing and compaction of bedding and backfill is subject to inspection by the Engineer.

D. Comply with applicable codes, ordinances, rules, regulations and laws of local, municipal, state or federal authorities having jurisdiction.

END OF SECTION

Part 1 General

1.01 Scope

A. The work covered by this Section includes furnishing all labor, materials and equipment required to bore and jack casings and to properly complete pipeline construction as described herein and/or shown on the Drawings.

B. Supply all materials and perform all work in accordance with applicable American Society for Testing and Materials (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI) or other recognized standards. Latest revisions of all standards are applicable. If requested by the Engineer, submit evidence that manufacturer has consistently produced products of satisfactory quality and performance over a period of at least two years.

1.02 Submittals

A. Submit shop drawings, product data and experience in accordance with the requirements of Section 01340 of these Specifications.

B. Material Submittals: The Contractor shall provide shop drawings and other pertinent specifications and product data as follows:

1. Shop drawings for casing pipe showing sizes and connection details.

2. Design mixes for concrete and grout.

3. Casing Spacers.

C. Experience Submittals

1. Boring and jacking casings is deemed to be specialty contractor work. If the Contractor elects to perform the work, the Contractor shall provide evidence as required by the General Conditions. A minimum of five continuous years of experience in steel casing construction is required of the casing installer. Evidence of this experience must be provided with the shop drawings for review by the Engineer.

2. 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 as required by the General Conditions.

1.03 Storage and Protection

All materials shall be stored and protected in accordance with the manufacturer's recommendations and as approved by the Engineer.

Part 2 Products

2.01 Materials and Construction

A. Casing

1. The casing shall be new and unused pipe. The casing shall be made from steel plate having a minimum yield strength of 35,000 psi. The

steel plate shall also meet the chemical requirements of one of the following: ASTM A36; ASTM A139, Grade B, C, D or E; ASTM A53, Type S or Type E, Grade A or B.

2. The thicknesses of casing shown in paragraph B. below are minimum thicknesses. Actual thicknesses shall be determined by the casing installer, based on an 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.

3. The diameters of casing shown in paragraph B. below and shown on the Drawings are minimum. Larger casings, with the 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.

B. Casing Sizes

UNDER HIGHWAYS		
Pipe Diameter, inches	Casing Diameter, inches	Wall Thickness, inches
24	36	0.375

C. Casing Spacers: Casing spacers shall meet one of the following requirements:

1. Casing spacers shall be flanged, bolt-on style with a two-section stainless steel shell lined with a PVC liner, minimum 0.09-inch thick also having a hardness of 85-90 durometer. Runners shall be attached to stainless steel risers which shall be properly welded to the shell. The height of the runners and risers shall be manufactured such that the pipe does not float within the casing.

2. Casing spacers shall be a two-section, flanged, bolt on style constructed of heat fused PVC coated steel, minimum 14 gauge band and 10 gauge risers, with 2-inch wide glass reinforced polyester insulating skids, heavy duty PVC inner liner, minimum 0.09-inch thick having a hardness of 85-90 durometer, and all stainless steel or cadmium plated hardware.

3. Casing spacers shall be equal to Cascade Waterworks Manufacturing Company, Pipeline Seal and Insulator, Inc., or Advance Products and Systems, Inc.

D. Grout: Grout may be used for filling the void between the casing pipe and the carrier pipe. Cement shall conform to ASTM C 150, Type I or Type II. Grout shall have a minimum compressive strength of 100 psi attained within 24 hours.

E. Carrier Pipe: Carrier pipes shall meet requirements as specified in Section 02665 of these Specifications.

F. 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.

2.02 Equipment

A. A cutting head shall be attached to a continuous auger mounted inside the casing pipe.

B. 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 Engineer.

Part 3 Execution

3.01 General

A. Interpretation of soil investigation reports and data, investigating the site 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. Rock and/or water, if encountered, shall not entitle the Contractor to additional compensation.

B. Casing construction shall be performed so as not to interfere with, interrupt or endanger roadway surface and activity thereon, and minimize subsidence of the surface, structures, and utilities above and in the vicinity of the casing. Support the ground continuously in a manner that will prevent loss of ground and keep the perimeters and face of the casing, passages and shafts stable. The Contractor shall be responsible for all settlement resulting from casing operations and shall repair and restore damaged property to its original or better condition at no cost to the Owner.

C. Face Protection: The face of the excavation shall be protected from the collapse of the soil into the casing.

D. Casing Design: Design of the bore pit and required bearing to resist jacking forces are the responsibility of the Contractor. The excavation method selected shall be compatible with expected ground conditions. The lengths of the casing shown on the Drawings are the minimum lengths required. The length of the casing may be extended for the convenience of the Contractor, at no additional cost to the Owner. Due to restrictive right-of-way and construction easements, boring and jacking casing lengths less than the nominal 20 foot length may be necessary.

E. Highway Crossings

1. The Contractor shall be held responsible and accountable for the coordinating and scheduling of all construction work within the highway right-of-way.

2. Work along or across the highway department rights-of-way shall be subject to inspection by such highway department.

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 highway department.

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, which are 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.

3.02 Groundwater Control

A. The Contractor shall control the groundwater throughout the construction of the casing.

B. Methods of dewatering shall be at the option and responsibility of the Contractor. Maintain close observation to detect settlement or displacement of surface facilities due to dewatering. Should settlement or displacement be detected, notify the Engineer immediately and take such action as necessary to maintain safe conditions and prevent damage.

C. When water is encountered, provide and maintain a dewatering system of sufficient capacity to remove water on a 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. Dewater into a sediment trap and comply with requirements specified in Section 02125 of these Specifications.

3.03 Safety

A. Provide all necessary bracing, bulkheads and shields to ensure complete safety to all traffic, persons and property at all times during the work. Perform 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 the regulations of the authorities having jurisdiction over this site. Conduct the operations in such a manner that all work will be performed below the level of the roadbed.

C. 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”.

3.04 Surface Settlement Monitoring

A. Provide surface settlement markers, placed as specified and as directed by the Engineer. The Contractor shall place settlement markers outside of pavement area, along the centerline of the casing at 20 foot intervals and offset 10 feet

each way from the centerline of the tunnel. Markers shall also be placed at each shoulder of the roadway, at each edge of pavement, at the centerline of the pavement and at 10 and 25 feet in each direction from the centerline of the casing. Tie settlement markers to bench marks and indices sufficiently removed as not to be affected by the casing operations.

B. Make observations of surface settlement markers, placed as required herein, at regular time intervals acceptable to the Engineer. In the event settlement or heave on any marker exceeds 1-inch, the Contractor shall immediately cease work and using a method approved by the Engineer and the authority having jurisdiction over the project site, take immediate action to restore surface elevations to that existing prior to start of casing operations.

C. 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 50 feet of the casing heading, at the beginning of each day; more frequently at the Engineer's direction if settlement is identified. 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. Promptly report any settlement and horizontal movement immediately to the Engineer and take immediate remedial action.

3.05 Boring and Jacking

A. Shaft

1. Conduct boring and jacking operations from a shaft excavated at one end of the section to be bored. Where conditions and accessibility are suitable, place the shaft on the downstream end of the bore.

2. The shaft shall be rectangular and excavated to a width and length required for ample working space. If necessary, 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. Keep preparations dry during all operations. Perform pumping operations as necessary.

3. The bottom of the shaft shall be firm and unyielding to form an adequate foundation upon which to work. In the event the shaft bottom is not stable, excavate to such additional depth as required and place a gravel sub-base or a concrete sub-base if directed by the Engineer due to soil conditions.

B. Jacking Rails and Frame

1. Set jacking rails to proper line and grade within the shaft. Secure rails in place to prevent settlement or movement during operations. The jacking rails shall cradle and hold the casing pipe on true line and grade during the progress of installing the casing.

2. 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 adequate design for the magnitude of the job. Apply thrust to the end of the pipe in such a manner to impart a uniformly balanced load 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 wetboring.

D. 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. 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 to prevent any voids in the earth around the outside perimeter of the pipe. 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, check the horizontal and vertical alignment frequently. Make corrections prior to continuing operation. For casing pipe installations over 100 feet in length, the auger shall be removed and the alignment and grade checked at minimum intervals of 60 feet.

H. Any casing pipe damaged in jacking operations shall be repaired, if approved by the 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 AWS recommended procedures. Prior to welding the joints, the Contractor shall ensure that both ends of the casing sections being welded are square.

J. The Contractor shall prepare a contingency plan which will allow 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 that 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 Engineer.

O. Trench excavation, all classes and type of excavation, the removal of rock, muck, debris, the excavation of all working pits and backfill requirements of Section 02225 are included under this Section.

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.

3.06 Ventilation and Air Quality

Provide, operate and maintain for the duration of casing project a ventilation system to meet safety and OSHA requirements.

3.07 Rock Excavation

A. In the event that rock is encountered during the installation of the casing pipe which, in the opinion of the Engineer, cannot be removed through the casing, the Engineer may authorize the Contractor to complete the crossing [with a tunnel] [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.

3.08 Installation of Pipe

A. After construction of the casing is complete, and has been accepted by the Engineer, install the pipeline in accordance with the Drawings and Specifications.

B. Check the alignment and grade of the casing and prepare a plan to set the pipe at proper alignment, grade and elevation, without any sags or high spots.

C. The pipe shall be supported within the casing by use of casing spacers sized to limit radial movement to a maximum of 1-inch. Provide a minimum of two casing spacers per nominal length of pipe. Casing spacers shall be attached to the pipe at maximum 9 to 10 foot intervals.

D. Fill the void between the carrier pipe and casing pipe with grout. Measures shall be taken by the Contractor to prevent floatation and other movement of the pipe as the grout is filling the void.

E. Close the ends of the casing with 4-inch brick walls.

3.09 Sheeting Removal

Remove sheeting used for shoring from the shaft and off the job site. 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.

END OF SECTION

Part 1 General

1.01 Scope

The work to be performed under this Section shall consist of removing and replacing existing pavement, sidewalks and curbs in paved areas where necessary for construction of water mains, appurtenances and structures.

1.02 Submittals

A. Certificates: Provide certificates stating that materials supplied comply with Specifications. Certificates shall be signed by the asphalt producer and the Contractor.

B. Traffic paint manufacturer's application instructions and a description and other data relative to the Contractor's application equipment and methods shall be submitted to the Engineer for approval.

1.03 Conditions

A. Weather Limitations

1. Apply bituminous prime and tack coats only when the ambient temperature has been at least 55 degrees F for 12 hours immediately prior to application.

2. Do not conduct paving operations when surface is wet or contains excess of moisture which would prevent uniform distribution and required penetration.

3. Construct asphaltic courses only when atmospheric temperature in the shade is above 40 degrees F, when the underlying base is dry and when weather is not rainy.

4. Place base course when air temperature is above 35 degrees F and rising.

B. Grade Control: Establish and maintain the required lines and grades for each course during construction operations.

Part 2 Products

2.01 Materials and Construction

A. Graded Aggregate Base Course: Graded aggregate base course shall be of uniform quality throughout and shall meet the requirements of Section 815.01 of the Georgia Department of Transportation Standard Specifications.

B. Black Base: Black base course shall be of uniform quality throughout and shall conform to the requirements of Section 828 of the Georgia Department of Transportation Standard Specifications.

C. Binder Course: The binder course of all paved roadways shall conform to the requirements of Section 400, Type "B" of the Georgia Department of Transportation Standard Specifications.

D. Surface Course: The surface course for all pavement, including prime or tack coat when required by the Engineer, shall conform to the requirements of Section 400, Type "E" of the Georgia Department of Transportation Standard Specifications.

E. Concrete: Provide concrete and reinforcing for concrete pavement or base courses in accordance with the requirements of the Georgia Department of Transportation Standard Specifications, Section 430. Concrete shall be of the strength classifications shown on the Drawings.

F. Special Surfaces: Where driveways or roadways are disturbed or damaged which are constructed of specialty type surfaces, e.g., brick or stone, these driveways and roadways shall be restored utilizing similar, if not original, materials. Where the nature of these surfaces dictate, a specialty contractor shall be used to restore the surfaces to their previous or better condition. Special surfaces shall be removed and replaced to the limits to which they were disturbed.

2.02 Types of Pavements

A. General: All existing pavement removed, destroyed or damaged by construction shall be replaced with the same type and thickness of pavement as that existing prior to construction, unless otherwise directed by the Engineer. Materials, equipment and construction methods used for paving work shall conform to the Georgia Department of Transportation specifications applicable to the particular type required for replacement, repair or new pavements.

B. Aggregate Base: Aggregate base shall be constructed in accordance with the requirements of Section 310 of the Georgia Department of Transportation Standard Specifications. The maximum thickness to be laid in a single course shall be 6-inches compacted. If the design thickness of the base is more than 6-inches, it shall be constructed in two or more courses of approximate equal thickness. After the material placed has been shaped to line, grade and cross-section, it shall be rolled until the course has been uniformly compacted to at least 100 percent of the maximum dry density when Group 2 aggregate is used, or to at least 98 percent of maximum dry density when Group 1 aggregate is used.

C. Concrete Pavement: Concrete pavement or base courses shall be replaced with concrete. The surface finish of the replaced concrete pavement shall conform to that of the existing pavement. The surface of the replaced concrete base course shall be left rough. The slab depth shall be equivalent to the existing concrete pavement or base course, but in no case less than 6-inches thick. Transverse and longitudinal joints removed from concrete pavement shall be replaced at the same locations and to the same types and dimensions as those removed. Concrete pavements or concrete base courses shall be reinforced.

D. Asphaltic Concrete Base, Binder and Surface Course: Asphaltic concrete base, binder and surface course construction shall conform to Georgia Department of Transportation Standard Specifications, Section 400. The pavement mixture shall

shall not be spread until the designated surface has been previously cleaned and prepared, is intact, firm, properly cured, dry and the tack coat has been applied. Apply and compact the base in maximum layer thickness by asphalt spreader equipment of design and operation approved by the Engineer. After compaction, the black base shall be smooth and true to established profiles and sections. Apply and compact [binder and] the surface course in a manner approved by the Engineer. Immediately correct any high, low or defective areas by cutting out the course, replacing with fresh hot mix, and immediately compacting to conform and thoroughly bond to the surrounding area.

E. Surface Treatment Pavement: Bituminous penetration surface treatment pavement shall be replaced with a minimum thickness of 1-inch conforming to Section 424, Georgia Department of Transportation Standard Specifications.

F. Gravel Surfaces: Existing gravel road, drive and parking area replacement shall meet the requirements of graded aggregate base course. This surfacing may be authorized by the Engineer as a temporary surface for paved streets until replacement of hard surfaced pavement is authorized.

G. Temporary Measures: During the time period between pavement removal and complete replacement of permanent pavement, maintain highways, streets and roadways by the use of steel running plates anchored to prevent movement. The backfill above the pipe shall be compacted, as specified in Section 02225 of these Specifications, up to the existing pavement surface to provide support for the steel running plates. All pavement shall be replaced within seven calendar days of its removal.

Part 3 Execution

3.01 Locations for Pavement Replacement

Pavement shall be removed and replaced with similar type and thickness as the original pavement, for the entire length of pipe laying and up to required trench width as per details shown on drawings.

3.02 Removing Pavement

A. General: Remove existing pavement as necessary for installing the pipe line and appurtenances.

B. Marking: Before removing any pavement, mark the pavement neatly paralleling pipe lines and existing street lines. Space the marks the width of the trench.

C. Breaking: Break asphalt pavement along the marks using pavement shearing equipment, jack hammers or other suitable tools. Break concrete pavement along the marks by scoring with a rotary saw and breaking below the score by the use of jack hammers or other suitable tools.

D. Machine Pulling: Do not pull pavement with machines until the pavement is completely broken and separated from pavement to remain.

E. Damage to Adjacent Pavement: Do not disturb or damage the adjacent pavement. If the adjacent pavement is disturbed or damaged, remove and replace the damaged pavement.

F. Sidewalk: Remove and replace any sidewalks disturbed by construction for their full width and to the nearest undisturbed joint.

G. Curbs: Tunnel under or remove and replace any curb disturbed by construction to the nearest undisturbed joint.

3.03 Replacing Pavement

A. Preparation of Subgrade: Upon completion of backfilling and compaction of the backfill, arrange to have the compaction tested by an independent testing laboratory approved by the Engineer. After compaction testing has been satisfactorily completed, replace all pavements, sidewalks and curbs removed.

1. The existing street pavement or surface shall be removed along the lines of the work for the allowable width specified for the trench or structure. After the installation of the water works facilities and after the backfill has been compacted suitably, the additional width of pavement to be removed, as shown on the Drawings, shall be done immediately prior to replacing the pavement.

2. Trench backfill shall be compacted for the full depth of the trench as specified in Section 02225 of these Specifications.

3. Temporary trench backfill along streets and driveways shall include 6-inches of crushed stone or cherty clay as a temporary surfacing of the trenches. This temporary surface shall be maintained carefully at grade and dust-free by the Contractor until the backfill of the trench has thoroughly compacted in the opinion of the Engineer and permission is granted to replace the street pavement.

4. When temporary crushed stone or chert surface is considered by the Engineer to be sufficient surface for gravel pavement, the surface shall be graded smooth and to an elevation that will make the final permanent surfacing level with the adjacent surfacing that was undisturbed.

B. Pavement Replacement

1. Prior to replacing pavement, make a final cut in concrete pavement 12-inches back from the edge of the damaged pavement with a concrete saw. Remove asphalt pavement 12-inches back from the edge of the damaged pavement using pavement shearing equipment, jack hammers or other suitable tools.

2. Replace all street and roadway pavement as shown on the Drawings. Replace driveways, sidewalks and curbs with the same material, to nearest existing undisturbed construction joint and to the same dimensions as those existing.

3. If the temporary crushed stone or chert surface is to be replaced, the top 6-inches shall be removed and the crushed stone surfacing for unpaved streets or the base for the bituminous surface shall be placed.

4. Following this preparation, the chert or crushed stone base shall be primed with a suitable bituminous material and surfaced with the proper type of bituminous surface treatment.

5. Where the paved surface is to be replaced with asphaltic concrete pavement, concrete pavement or with a concrete base and a surface course, the temporary chert or crushed stone surface and any necessary backfill material, additional existing paving and new excavation shall be removed to the depth and width shown on the Drawings. All edges of the existing pavement shall be cut to a straight, vertical edge. Care shall be used to get a smooth joint between the old and new pavement and to produce an even surface on the completed street. Concrete base slabs and crushed stone bases, if required, shall be placed and allowed to cure for three days before bituminous concrete surface courses are applied. Expansion joints, where applicable, shall be replaced in a manner equal to the original joint.

6. Where driveways or roadways, constructed of specialty type surfaces, e.g., brick or stone are disturbed or damaged, these driveways and roadways shall be restored utilizing similar materials. Where the nature of these surfaces dictate, a specialty contractor shall be used to restore the surfaces to their previous or better condition. Special surfaces shall be removed and replaced to the limits to which they were disturbed.

C. Pavement Striping: Pavement striping removed or paved over shall be replaced with the same type, dimension and material as original unless directed otherwise by the Engineer.

3.04 Sidewalk and Curb Replacement

A. Construction

1. All concrete sidewalks and curbs shall be replaced with concrete.

2. Preformed joints shall be 1/2-inch thick, conforming to the latest edition of AASHTO M59 for sidewalks and AASHTO M 123 for curbs.

3. Forms for sidewalks shall be of wood or metal, shall be straight and free from warp, and shall be of sufficient strength, when in place, to hold the concrete true to line and grade without springing or distorting.

4. Forms for curbs shall be metal and of an approved section. They shall be straight and free from distortions, showing no vertical variation greater than 1/8-inch in 10 feet and no lateral variation greater than 1/4-inch in 10 feet from the true plain surface on the vertical face of the form. Forms shall be of the full depth of the structure and constructed such to permit the inside forms to be securely fastened to the outside forms.

5. Securely hold forms in place true to the lines and grades indicated on the Drawings.

6. Wood forms may be used on sharp turns and for special sections, as approved by the Engineer. Where wooden forms are used, they shall be free from warp and shall be the nominal depth of the structure.

7. All mortar and dirt shall be removed from forms and all forms shall be thoroughly oiled or wetted before any concrete is deposited.

B. When a section is removed, the existing sidewalk or curb shall be cut to a neat line, perpendicular to both the centerline and the surface of the concrete slab. Existing concrete shall be cut along the nearest existing construction joints; if such joints do not exist, the cut shall be made at minimum distances shown on the Drawings.

C. Existing concrete sidewalks and curbs that have been cut and removed for construction purposes shall be replaced with the same width and surface as the portion removed. Sidewalks shall have a minimum uniform thickness of 4-inches. The new work shall be neatly jointed to the existing concrete so that the surface of the new work shall form an even, unbroken plane with the existing surfaces.

D. The subgrade shall be formed by excavating to a depth equal to the thickness of the concrete, plus 2-inches. Subgrade shall be of such width as to permit the proper installation and bracing of the forms. Subgrades shall be compacted by hand tamping or rolling. Soft, yielding or unstable material shall be removed and backfilled with satisfactory material. Place 2-inches of porous crushed stone under all sidewalks and curbs and compacted thoroughly, then finish to a smooth, unyielding surface at proper line, grade and cross section.

E. Joint for Curbs

1. Joints shall be constructed as indicated on the Drawings and as specified. Construct joints true to line with their faces perpendicular to the surface of the structure and within 1/4-inch of their designated position.

2. Thoroughly spade and compact the concrete at the faces of all joints filling all voids.

3. Install expansion joint materials at the point of curve at all street returns. Install expansion joint material behind the curb at abutment to sidewalks and adjacent structures.

4. Place contraction joints every 10 feet along the length of the curbs and gutters. Form contraction joints using steel templates or division plates which conform to the cross section of the structure. Leave the templates in place until the concrete has set sufficiently to hold its shape, but remove them while the forms are still in place. Contraction joint templates or plates shall not extend below the top of the steel reinforcement or they shall be notched to permit the reinforcement to be continuous through the joint. Contraction joints shall be a minimum of 1-1/2-inches deep.

F. Expansion joints shall be required to replace any removed expansion joints or in new construction wherever shown on the Drawings. Expansion joints shall be true and even, shall present a satisfactory appearance, and shall extend to within 1/2-inch of the top of finished concrete surface.

G. Finishing

1. Strike off the surface with a template and finish the surface with a wood float using heavy pressure, after which, contraction joints shall be made and the surface finished with a wood float or steel trowel.

2. Finish the face of the curbs at the top and bottom with an approved finishing tool of the radius indicated on the Drawings.

3. Finish edges with an approved finishing tool having a 1/4-inch radius.

4. Provide a final broom finish by lightly combing with a stiff broom after troweling is complete.

5. The finished surface shall not vary more than 1/8-inch in 10 feet from the established grade.

H. Driveway and Sidewalk Ramp Openings

1. Provide driveway openings of the widths and at the locations indicated on the Drawings and as directed by the Engineer.

2. Provide sidewalk ramp openings as indicated on the Drawings, in conformance with the applicable regulations and as directed by the Engineer.

I. Concrete shall be suitably protected from freezing and excessive heat. It shall be kept covered with burlap or other suitable material and kept wet until cured. Provide necessary barricades to protect the work. All damage caused by people, vehicles, animals, rain, the Contractor's operations and the like shall be repaired by the Contractor, at no additional expense to the Owner.

3.05 Maintenance

The Contractor shall maintain the surfaces of roadways built and pavements replaced until the acceptance of the Project. Maintenance shall include replacement, scraping, reshaping, wetting and rerolling as necessary to prevent raveling of the road material, the preservation of reasonably smooth surfaces and the repair of damaged or unsatisfactory surfaces, to the satisfaction of the Engineer. Maintenance shall include sprinkling as may be necessary to abate dust from the gravel surfaces.

3.06 Supervision and Approval

A. Pavement restoration shall meet the requirements of the regulatory agency responsible for the pavement. Obtain agency approval of pavement restorations before requesting final payment.

B. Obtain the Engineer's approval of restoration of pavement, such as private roads and drives, that are not the responsibility of a regulatory agency.

C. Complete pavement restoration as soon as possible after backfilling.

D. Failure of Pavement: Should any pavement restoration or repairs fail or settle during the life of the Contract, including the bonded period, promptly restore or repair defects.

3.07 Cleaning

The Contractor shall remove all surplus excavation materials and debris from the street surfaces and rights-of-way and shall restore street, roadway or sidewalk surfacing to its original condition.

END OF SECTION

Part 1 General

1.01 Scope

A. This Section describes products to be incorporated into the water mains and requirements for the installation and use of these items. Furnish all products and perform all labor necessary to fulfill the requirements of these Specifications.

B. Supply all products and perform all work in accordance with applicable American Society for Testing and Material (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), or other recognized standards. Latest revisions of all standards are applicable.

1.02 Qualifications

If requested by the Engineer, submit evidence that manufacturers have consistently produced products of satisfactory quality and performance for a period of at least two years.

1.03 Submittals

Complete shop drawings, product data and engineering data for all products shall be submitted to the Engineer in accordance with the requirements of Section 01800 of these Specifications.

1.04 Transportation and Handling

A. Unloading: Furnish equipment and facilities for unloading, handling, distributing and storing pipe, fittings, valves and accessories. Make equipment available at all times for use in unloading. Do not drop or dump materials. Any materials dropped or dumped will be subject to rejection without additional justification. Pipe handled on skids shall not be rolled or skidded against the pipe on the ground.

B. Handling: Handle pipe, fittings, valves and accessories carefully to prevent shock or damage. Handle pipe by rolling on skids, forklift, or front end loader. Do not use material damaged in handling. Slings, hooks or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior coatings or internal lining of the pipe.

1.05 Storage and Protection

A. Store all pipe which cannot be distributed along the route. Make arrangements for the use of suitable storage areas.

B. Stored materials shall be kept safe from damage. The interior of all pipe, fittings and other appurtenances shall be kept free from dirt or foreign matter at all times. Valves and hydrants shall be drained and stored in a manner that will protect them from damage by freezing.

C. Pipe shall not be stacked higher than the limits recommended by the manufacturer. The bottom tier shall be kept off the ground on timbers, rails or concrete. Pipe in tiers shall be alternated: bell, plain end; bell, plain end. At least two rows of timbers shall be placed between tiers and chocks, affixed to each

other in order to prevent movement. The timbers shall be large enough to prevent contact between the pipe in adjacent tiers.

D. Stored mechanical and push-on joint gaskets shall be placed in a cool location out of direct sunlight. Gaskets shall not come in contact with petroleum products. Gaskets shall be used on a first-in, first-out basis.

E. Mechanical-joint bolts shall be handled and stored in such a manner that will ensure proper use with respect to types and sizes.

1.06 Quality Assurance

The manufacturer shall provide written certification to the Engineer that all products furnished comply with all applicable requirements of these Specifications.

Part 2 Products

2.01 Piping Materials and Accessories

A. Ductile Iron Pipe (DIP)

1. Ductile iron pipe shall be manufactured in accordance with AWWA C151. All pipe, except specials, shall be furnished in nominal lengths of 18 to 20 feet. Sizes will be as shown on the Drawings. All pipe shall have a minimum pressure rating as indicated in the following table, and corresponding minimum wall thickness, unless otherwise specified or shown on the Drawings:

Pipe Sizes (inches)	Pressure Class (psi)
4 - 12	350
14 - 18	350
20	300
24	250
30 - 54	200
60 - 64	200

2. Pipe and fittings shall be cement lined in accordance with AWWA C104. Pipe and fittings shall be furnished with a bituminous outside coating.

3. Fittings shall be ductile iron and shall conform to AWWA C110 or AWWA C153 with a minimum rated working pressure of 250 psi. Fittings shall be manufactured in the United States.

4. Joints

a. Unless shown or specified otherwise, joints shall be push-on or restrained joint type for pipe and standard mechanical, push-on or restrained joints for fittings. Push-on and mechanical joints

shall conform to AWWA C111. Restrained joints shall be American “LOK-FAST”, “FLEX-RING” or “LOK-RING”, Clow “SUPER-LOCK”, or U.S. Pipe “TR FLEX” or “LOK-TYTE”. No field welding of restrained joint pipe will be permitted.

5. Provide the appropriate gaskets for mechanical joints.

6. Bolts and Nuts

   a. Provide the necessary bolts for connections. All bolts and nuts shall be threaded in accordance with ANSI B1.1, Coarse Thread Series, Class 2A external and 2B internal fit. All bolts and nuts shall be made in the U.S.A.

   b. Bolts and nuts for mechanical joints shall be Tee Head Bolts and nuts of high strength low-alloy steel in accordance with ASTM A 242 to the dimensions shown in AWWA C111/ANSI A21.11.

   c. Bolts for exposed service shall be zinc plated, cold pressed, steel machine bolts conforming to ASTM A 307, Grade B. Nuts for exposed service shall be zinc plated, heavy hex conforming to ASTM A 563. Zinc plating shall conform to ASTM B 633, Type II.

7. Mechanical joint glands shall be ductile iron.

8. Thrust collars shall be welded-on ductile iron body type designed to withstand thrust due to 250 psi internal pressure on a dead end.

9. Electronic Markers shall be buried with utilities to serve as a signaling device. Electronic markers shall be the “Ball” type for a depth up to 4-feet and the “Full Range” type for depths greater than 4-feet. Each marker shall be color coded in accordance with APWA standards and produce an industry specific frequency. Each marker shall contain a passive antenna that requires no internal power source. Markers shall be of water resistant polyethylene shells and impervious to minerals, chemicals, and underground temperature extremes. Electronic markers shall be compatible with Subsite EML 75R Locator. Markers shall be equal to 3M ScotchMark full range electronic markers #1252 or equivalent.

9. Acceptance will be on the basis of the Engineer's inspection and the manufacturer's written certification that the pipe was manufactured and tested in accordance with the applicable standards.

2.02 Valves

A. Gate Valves (GV)

1. 4-Inches and larger in Diameter: Gate valves shall be resilient wedge type conforming to the requirements of AWWA C509 or AWWA C515 rated for 250 psi working pressure.

   a. Valves shall be provided with two O-ring stem seals with one O-ring located above and one O-ring below the stem collar. The area between the O-rings shall be filled with lubricant to provide

lubrication to the thrust collar bearing surfaces each time the valve is operated. At least one anti-friction washer shall be utilized to further minimize operating torque. All seals between valve parts, such as body and bonnet, bonnet and bonnet cover, shall be flat gaskets or O-rings.

b. The valve gate shall be made of cast or ductile iron having a vulcanized, synthetic rubber coating, or a seat ring attached to the disc with retaining screws. Sliding of the rubber on the seating surfaces to compress the rubber will not be allowed. The design shall be such that compression-set of the rubber shall not affect the ability of the valve to seal when pressure is applied to either side of the gate. The sealing mechanism shall provide zero leakage at the water working pressure when installed with the line flow in either direction.

c. All internal ferrous surfaces shall be coated with epoxy to a minimum thickness of 4 mils. The epoxy shall be non-toxic, impart no taste to the water and shall conform to AWWA C550.

d. Valves shall be non-rising stem type with a 2-inch square wrench nut, and shall open left. The manufacturer shall provide an affidavit of compliance with the applicable AWWA standards.

d. Gate valves larger than 4-inches shall be manufactured by American Flow Control, Mueller or M & H Valve.

B. Butterfly Valves (BV)

1. Butterfly valves shall be 250 psi valves, resilient seated, short body design, and shall be designed, manufactured, and tested in accordance with all requirements of AWWA C504 for Class 150B.

2. Valve bodies shall be ductile iron conforming to ASTM A 536, Grade 65-45-12 or ASTM A 126, Grade B cast iron. Shafts shall be ASTM A 276, Type 304 stainless steel, machined and polished. Valve discs shall be ductile iron, ASTM A 536, Grade 65-45-12 or ASTM A 126, Grade B cast iron. The valve shall have a resilient seat.

3. Valves shall be installed with the valve shafts horizontal. Valves and actuators shall have seals on all shafts and gaskets on valve actuator covers to prevent the entry of water. Actuator mounting brackets shall be totally enclosed and shall have gasket seals.

4. Actuators

a. Valves shall be equipped with traveling nut, self-locking type actuators designed, manufactured and tested in accordance with AWWA C504. Actuators shall be capable of holding the disc in any position between full open and full closed without any movement or fluttering of the disc.

b. Actuators shall be furnished with fully adjustable mechanical stop-limiting devices. Actuators that utilize the sides of the actuator housing to limit disc travel are unacceptable.

c. Valve actuators shall be capable of withstanding a minimum of 450 foot pounds of input torque in either the open or closed position without damage.

5. Operators: Valves for buried service shall have a nut type operator and shall be equipped with a valve box and stem extension, as required.

6. Valve ends shall be mechanical joint type, except where joint ends are shown.

7. Butterfly valves shall be manufactured by Mueller, M & H Valve, DeZurik, or Pratt.

2.03 Fire Hydrants (FH)

A. All fire hydrants shall conform to the requirements of AWWA C502 for 150 psi working pressure. Hydrants shall be the compression type, closing with line pressure. The valve opening shall not be less than 5-1/4-inches.

B. In the event of a traffic accident, the hydrant barrel shall break away from the standpipe at a point above grade and in a manner which will prevent damage to the barrel and stem, preclude opening of the valve, and permit rapid and inexpensive restoration without digging or cutting off the water.

C. The means for attaching the barrel to the standpipe shall permit facing the hydrant a minimum of eight different directions.

D. Hydrants shall be fully bronze mounted with all working parts of bronze. Valve seat ring shall be bronze and shall screw into a bronze retainer.

E. All working parts, including the seat ring shall be removable through the top without disturbing the barrel of the hydrant.

F. The operating nut shall match those on the existing hydrants. The operating threads shall be totally enclosed in an operating chamber, separated from the hydrant barrel by a rubber O-ring stem seal and lubricated by a grease or an oil reservoir.

G. Hydrant shall be a non-freezing design and be provided with a simple, positive, and automatic drain which shall be fully closed whenever the main valve is opened.

H. Hose and pumper connections shall be breech-locked, pinned, or threaded and pinned to seal them into the hydrant barrel. Each hydrant shall have two 2-1/2-inch hose connections and one 4-1/2-inch pumper connection, all with National Standard threads and each equipped with cap and non-kinking chain.

I. Hydrants shall be furnished with a mechanical joint connection to the spigot of the 6-inch hydrant lead.

J. Minimum depth of bury shall be 4.5 feet. Provide extension section where necessary for proper vertical installation and in accordance with manufacturer's recommendations.

K. All outside surfaces of the barrel above grade shall be painted with enamel equal to Koppers Glamortex 501 in a color to be selected by the Owner.

L. Hydrants shall be traffic model and shall be American Flow Control B-84-B, Mueller Super Centurion or M & H Valve 929.

2.04 Valve Boxes (VB) and Extension Stems

A. All valves shall be equipped with valve boxes. The valve boxes shall be cast iron two-piece screw type with drop covers. Valve boxes shall have a 5.25-inch inside diameter. Valve box covers shall weigh a minimum of 13 pounds. The valve boxes shall be adjustable to 6-inches up or down from the nominal required cover over the pipe. Valve boxes shall be of sufficient length that bottom flange of the lower belled portion of the box is below the valve operating nut. Ductile or cast iron extensions shall be provided as necessary. Covers shall have “WATER VALVE” or “WATER” cast into them. Valve boxes shall be manufactured in the United States.

B. All valves shall be furnished with extension stems, as necessary, to bring the operating nut to within 30-inches of the top of the valve box. Connection to the valve shall be with a wrench nut coupling and a set screw to secure the coupling to the valve's operating nut. The coupling and square wrench nut shall be welded to the extension stem. Extension stems shall be equal to Mueller A-26441 or M & H Valve Style 3801.

2.05 Valve Markers (VM)

The Contractor shall provide a concrete valve marker as detailed on the Drawings for each valve installed. Valve markers shall be stamped “WATER”.

2.06 Tapping Sleeves and Valves (TS&V)

Tapping sleeves shall be cast or ductile iron of the split-sleeve, mechanical joint type. The Contractor shall be responsible for determining the outside diameter of the pipe to be connected to prior to ordering the sleeve. Valves shall be gate valves furnished in accordance with the specifications shown above, with flanged connection to the tapping sleeve and mechanical joint connection to the branch pipe. The tapping sleeve and valve shall be supplied by the valve manufacturer. Tapping sleeves shall be equal to American Flow Control, Mueller or M & H Valve.

2.07 Air Valves for Water Service

A. Air Release Valves: The air release valve shall automatically release air accumulations from the pipeline due to the action of the float. When the air valve body fills with air, the float falls freely from the orifice to allow the air to escape to the atmosphere. When all the air has been exhausted from the valve body, the float will be buoyed up to seat against the orifice and prevent water from being exhausted from the valve. The valve body and cover shall be constructed of cast iron (ASTM A 126-B). A synthetic orifice button shall be affixed to the valve cover

to provide a non-corrosive seat for the float. The float shall be constructed of stainless steel. A resilient, Buna-N seat shall be attached to the float for drop-tight closure. The float shall be free floating within the valve body. Valve orifice size shall be as shown on the Drawings.

B. All air valves and accessories shall be supplied by a single manufacturer and shall be G.A. Industries, APCO Valve Corporation or Val-Matic.

2.08 Manholes and Precast Concrete Products

A. Provide precast concrete products in accordance with the following:

1. Precast Concrete Sections

   a. Precast concrete sections shall meet the requirements of ASTM C 478. The minimum compressive strength of the concrete in precast sections shall be 4,000 psi. The minimum wall thickness shall be one-twelfth of the inside diameter of the base, riser or the largest cone diameter.

   b. Transition slabs which convert bases larger than four feet in diameter to four foot diameter risers shall be designed by the precast concrete manufacturer to carry the live and dead loads exerted on the slab.

   c. Seal joints between precast sections by means of rubber O-ring gaskets or flexible butyl rubber sealant. Butyl rubber sealants shall meet the requirements of AASHTO M-198. Sealant shall be pre-formed type with a minimum nominal diameter of 1-inch.

   d. Butyl rubber sealant shall be equal to Kent Seal No. 2 or Concrete Sealants CS 202.

2. Brick and Mortar: Brick shall be whole and hardburned, conforming to ASTM C 32, Grade MS. Mortar shall be made of one part Portland cement and two parts clean sharp sand. Cement shall be Type 1 and shall conform to ASTM C 150. Sand shall meet ASTM C 144.

3. Iron Castings

   a. Cast iron manhole frames, covers and steps shall meet the requirements of ASTM A 48 for Class 30 gray iron and all applicable local standards. All castings shall be tough, close grained, smooth and free from blow holes, blisters, shrinkage, strains, cracks, cold shots and other imperfections. No casting will be accepted which weighs less than 95 percent of the design weight. Shop drawings must indicate the design weight and provide sufficient dimensions to permit checking. All castings shall be thoroughly cleaned in the shop and given two coats of approved bituminous paint before rusting begins.

   b. Manhole frames and covers shall be equal to the following:

Type	Design Weight	Manufacturer's Reference	
Bolt Down	400#	Neenah A-1916-F1	Vulcan V-2358

c. All frames and covers shall have machined horizontal bearing surfaces.

4. Plastic Steps: Manhole steps of polypropylene, molded around a steel rod, equal to products of M.A. Industries may be used.

5. Where vent pipes are shown on the Drawings, vents shall be of one-piece, welded steel construction. Vent pipes shall equal air valve size, but no less than 4-inches. The vent pipe shall be grouted into a precast hole in the vault. The discharge of the vent pipe shall be provided with a 3/16-inch PVC coated mesh screen.

2.09 Retainer Glands

A. Retainer glands for ductile iron pipe shall be Megalug Series 1100, as manufactured by EBAA Iron, or Uni-Flange Series 1400, as manufactured by Ford Meter Box Company.

B. Retainer glands shall be provided at all mechanical joints, including fittings, valves, hydrants and other locations as shown on the Drawings.

2.10 Hydrant Tees

Hydrant tees shall be equal to ACIPCO A10180 or U.S. Pipe U-592.

2.11 Concrete

Concrete shall have a compressive strength of not less than 3000 psi, with not less than 5.5 bags of cement per cubic yard and a slump between 3 and 5-inches. For job mixed concrete, submit the concrete mix design for approval by the Engineer. Ready-mixed concrete shall be mixed and transported in accordance with ASTM C 94. Reinforcing steel shall conform to the requirements of ASTM A 615, Grade 60.

Part 3 Execution

3.01 Existing Utilities and Obstructions

A. The Drawings indicate utilities or obstructions that are known to exist according to the best information available to the Owner. The Contractor shall call the Utilities Protection Center (UPC) (404-325-5000 or 1-800-282-7411) as required by Georgia law (Code Section 25-9-1 through 25-9-13) and all utilities, agencies or departments that own and/or operate utilities in the vicinity of the construction work site at least 72 hours (three business days) prior to construction to verify the location of the existing utilities.

B. Existing Utility Location: The following steps shall be exercised to avoid interruption of existing utility service.

1. Provide the required notice to the utility owners and allow them to locate their facilities according to Georgia law. Field utility locations are valid for only 10 days after original notice. The Contractor shall ensure, at the time of any excavation, that a valid utility location exists at the point of excavation.

2. Expose the facility, for a distance of at least 200 feet in advance of pipeline construction, to verify its true location and grade. Repair, or have repaired, any damage to utilities resulting from locating or exposing their true location.

3. Avoid utility damage and interruption by protection with means or methods recommended by the utility owner.

4. Maintain a log identifying when phone calls were made, who was called, area for which utility relocation was requested and work order number issued, if any. The Contractor shall provide the Engineer an updated copy of the log bi-weekly, or more frequently if required.

C. Conflict with Existing Utilities

1. Horizontal Conflict: Horizontal conflict shall be defined as when the actual horizontal separation between a utility, main, or service and the proposed water main does not permit safe installation of the water main by the use of sheeting, shoring, tieing-back, supporting, or temporarily suspending service of the parallel or crossing facility. The Contractor may change the proposed alignment of the water main to avoid horizontal conflicts if the new alignment remains within the available right-of-way or easement, complies with regulatory agency requirements and after a written request to and subsequent approval by the Engineer. Where such relocation of the water main is denied by the Engineer, the Contractor shall arrange to have the utility, main, or service relocated.

2. Vertical Conflict: Vertical conflict shall be defined as when the actual vertical separation between a utility, main, or service and the proposed water main does not permit the crossing without immediate or potential future damage to the utility, main, service, or the water main. The Contractor may change the proposed grade of the water main to avoid vertical conflicts if the changed grade maintains adequate cover and complies with regulatory agencies requirements after written request to and subsequent approval by the Engineer. Where such relocation of the water main is denied by the Engineer, the Contractor shall arrange to have the utility, main, or service relocated.

D. Electronic Locator: Have available at all times an electronic pipe locator and a magnetic locator, in good working order, to aid in locating existing pipe lines or other obstructions.

E. Water and Sewer Separation

1. Water mains should maintain a minimum 10 foot edge-to-edge separation from sewer lines, whether gravity or pressure. If the main cannot be installed in the prescribed easement or right-of-way and provide the 10 foot separation, the separation may be reduced, provided the bottom of

the bottom of the water main is a minimum of 18-inches above the top of the sewer. Should neither of these two separation criteria be possible, the water main shall be installed below the sewer with a minimum vertical separation of 18-inches.

2. No water main shall pass through, or come in contact with, any part of a sanitary sewer manhole.

3.02 Construction Along Highways, Streets and Roadways

A. Install pipe lines and appurtenances along highways, streets and roadways in accordance with the applicable regulations of, and permits issued by, the Department of Transportation and Fulton County with reference to construction operations, safety, traffic control, road maintenance and repair.

B. Traffic Control

1. The Contractor shall provide, erect and maintain all necessary barricades, suitable and sufficient lights and other traffic control devices; provide qualified flagmen where necessary to direct traffic; take all necessary precautions for the protection of the work and the safety of the public. Flagmen shall be certified by a Georgia DOT approved training program.

2. Construction traffic control devices and their installation shall be in accordance with the current Manual On Uniform Traffic Control Devices for Streets and Highways.

3. Placement and removal of construction traffic control devices shall be coordinated with the Georgia Department of Transportation and Fulton County a minimum of 48 hours in advance of the activity.

4. Placement of construction traffic control devices shall be scheduled ahead of associated construction activities. Construction time in street right-of-way shall be conducted to minimize the length of time traffic is disrupted. Construction traffic control devices shall be removed immediately following their useful purpose. Traffic control devices used intermittently, such as “Flagmen Ahead”, shall be removed and replaced when needed.

5. Existing traffic control devices within the construction work zone shall be protected from damage. Traffic control devices requiring temporary relocation shall be located as near as possible to their original vertical and horizontal locations. Original locations shall be measured from reference points and recorded in a log prior to relocation. Temporary locations shall provide the same visibility to affected traffic as the original location. Relocated traffic control devices shall be reinstalled in their original locations as soon as practical following construction.

6. Construction traffic control devices shall be maintained in good repair and shall be clean and visible to affected traffic for daytime and nighttime operation. Traffic control devices affected by the construction work zone shall be inspected daily.

7. Construction warning signs shall be black legend on an orange background. Regulatory signs shall be black legend on a white background. Construction sign panels shall meet the minimum reflective requirements of the Georgia Department of Transportation and Fulton County. Sign panels shall be of durable materials capable of maintaining their color, reflective character and legibility during the period of construction.

8. Channelization devices shall be positioned preceding an obstruction at a taper length as required by the current Manual On Uniform Traffic Control Devices for Streets and Highways, as appropriate for the speed limit at that location. Channelization devices shall be patrolled to insure that they are maintained in the proper position throughout their period of use.

D. Construction Operations

1. Perform all work along highways, streets and roadways to minimize interference with traffic.

2. Stripping: Where the pipe line is laid along road right-of-way, strip and stockpile all sod, topsoil and other material suitable for right-of-way restoration.

3. Trenching, Laying and Backfilling: Do not open the trench any further ahead of pipe laying operations than is necessary. Backfill and remove excess material immediately behind laying operations. Complete excavation and backfill for any portion of the trench in the same day.

4. Shaping: Reshape damaged slopes, side ditches, and ditch lines immediately after completing backfilling operations. Replace topsoil, sod and any other materials removed from shoulders.

E. Excavated Materials: Do not place excavated material along highways, streets and roadways in a manner which obstructs traffic. Sweep all scattered excavated material off of the pavement in a timely manner.

F. Drainage Structures: Keep all side ditches, culverts, cross drains, and other drainage structures clear of excavated material. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

G. Landscaping Features: Landscaping features shall include, but are not necessarily limited to: fences; property corners; cultivated trees and shrubbery; manmade improvements; subdivision and other signs within the right-of-way and easement. The Contractor shall take extreme care in moving landscape features and promptly re-establishing these features.

H. Maintaining Highways, Streets, Roadways and Driveways

1. Maintain streets, highways, roadways and driveways in suitable condition for movement of traffic until completion and final acceptance of the Work.

2. During the time period between pavement removal and completing permanent pavement replacement, maintain highways, streets and roadways by the use of steel running plates. Running plate edges shall

have asphalt placed around their periphery to minimize vehicular impact. The backfill above the pipe shall be compacted as specified elsewhere up to the existing pavement surface to provide support for the steel running plates.

3. Furnish a road grader or front-end loader for maintaining highways, streets, and roadways. The grader or front-end loader shall be available at all times.

4. Immediately repair all driveways that are cut or damaged. Maintain them in a suitable condition for use until completion and final acceptance of the Work.

3.03 Pipe Distribution

A. Pipe shall be distributed and placed in such a manner that will not interfere with traffic.

B. No pipe shall be strung further along the route than 1,000 feet beyond the area in which the Contractor is actually working without written permission from the Owner. The Owner reserves the right to reduce this distance to a maximum distance of 200 feet in residential and commercial areas based on the effects of the distribution to the adjacent property owners.

C. No street or roadway may be closed for unloading of pipe without first obtaining permission from the proper authorities. The Contractor shall furnish and maintain proper warning signs and obstruction lights for the protection of traffic along highways, streets and roadways upon which pipe is distributed.

D. No distributed pipe shall be placed inside drainage ditches.

E. Distributed pipe shall be placed as far as possible from the roadway pavement, but no closer than five feet from the roadway pavement, as measured edge-to-edge.

3.04 Location and Grade

A. The Drawings show the alignment and grade of the water main and the location of valves, hydrants and other appurtenances.

B. Prior to clearing and grubbing, the Engineer will provide a temporary bench mark along the water main route and [a hub at the center line of each bend] and at all other locations where the alignment of the water main changes significantly.

C. Construction Staking

1. The base lines for locating the principal components of the work and a bench mark adjacent to the work are shown on the Drawings. Base lines shall be defined as the line to which the location of the water main is referenced, i.e., edge of pavement, road centerline, property line, right-of-way or survey line. The Contractor shall be responsible for performing all survey work required for constructing the water main, including the establishment of base lines and any detail surveys needed for construction. This work shall include the staking out of permanent and

and temporary easements to insure that the Contractor is not deviating from the designated easements.

2. The level of detail of survey required shall be that which the correct location of the water main can be established for construction and verified by the Engineer. Where the location of components of the water main, e.g. tunnels and fittings, are not dimensioned, the establishment on the location of these components shall be based upon scaling these locations from the Drawings with relation to readily identifiable land marks, e.g., survey reference points, power poles, manholes, etc.

D. Reference Points

1. The Contractor shall take all precautions necessary, which includes, but is not necessarily limited to, installing reference points, in order to protect and preserve the centerline or baseline established by the Engineer.

2. Reference points shall be placed, at or no more than three feet, from the outside of the construction easement or right-of-way. The location of the reference points shall be recorded in a log with a copy provided to the Engineer for use, prior to verifying reference point locations. Distances between reference points and the manhole centerlines shall be accurately measured to 0.01 foot.

3. The Contractor shall give the Engineer reasonable notice that reference points are set. The reference point locations must be verified by the Engineer prior to commencing clearing and grubbing operations.

E. After the Contractor locates and marks the water main centerline or baseline, the Contractor shall perform clearing and grubbing.

F. Construction shall begin at a connection location and proceed without interruption. Multiple construction sites shall not be permitted without written authorization from the Engineer for each site.

G. The Contractor shall be responsible for any damage done to reference points, base lines, center lines and temporary bench marks, and shall be responsible for the cost of re-establishment of reference points, base lines, center lines and temporary bench marks as a result of the operations.

H. Construction Verification Survey allowance: The Construction Verification Survey cash allowance is solely for the use of the Engineer for verification of the Contractor's reference points, centerlines and work performed. The presence of this cash allowance in no way relieves the Contractor of the responsibility of installing reference points, centerlines, temporary bench marks, providing as-built drawings, or verifying that the work has been performed accurately.

3.05 Laying and Jointing Pipe and Accessories

A. Lay all pipe and fittings to accurately conform to the lines and grades established by the Engineer.

B. Pipe Installation

1. Proper implements, tools and facilities shall be provided for the safe performance of the Work. All pipe, fittings, valves and hydrants shall be lowered carefully into the trench by means of slings, ropes or other suitable tools or equipment in such a manner as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall water main materials be dropped or dumped into the trench.

2. All pipe, fittings, valves, hydrants and other appurtenances shall be examined carefully for damage and other defects immediately before installation. Defective materials shall be marked and held for inspection by the Engineer, who may prescribe corrective repairs or reject the materials.

3. All lumps, blisters and excess coating shall be removed from the socket and plain ends of each pipe, and the outside of the plain end and the inside of the bell shall be wiped clean and dry and free from dirt, sand, grit or any foreign materials before the pipe is laid. No pipe containing dirt shall be laid.

4. Foreign material shall be prevented from entering the pipe while it is being placed in the trench. No debris, tools, clothing or other materials shall be placed in the pipe at any time.

5. As each length of pipe is placed in the trench, the joint shall be assembled and the pipe brought to correct line and grade. The pipe shall be secured in place with approved backfill material.

6. It is not mandatory to lay pipe with the bells facing the direction in which work is progressing.

7. Applying pressure to the top of the pipe, such as with a backhoe bucket, to lower the pipe to the proper elevation or grade, shall not be permitted.

C. Alignment and Gradient

1. Lay pipe straight in alignment and gradient or follow true curves as nearly as practicable. Do not deflect any joint more than the maximum deflection recommended by the manufacturer.

2. Maintain a transit, level and accessories on the job to lay out angles and ensure that deflection allowances are not exceeded.

D. Expediting of Work: Excavate, lay the pipe, and backfill as closely together as possible. Do not leave unjointed pipe in the trench overnight. Backfill and compact the trench as soon as possible after laying and jointing is completed. Cover the exposed end of the installed pipe each day at the close of work and at all other times when work is not in progress. If necessary to backfill over the end of an uncompleted pipe or accessory, close the end with a suitable plug, either push-on, mechanical joint, restrained joint or as approved by the Engineer.

E. Joint Assembly

1. Push-on, mechanical, flange and restrained type joints shall be assembled in accordance with the manufacturer's recommendations.

2. The Contractor shall inspect each pipe joint within 1,000 feet on either side of main line valves to insure 100 percent seating of the pipe spigot, except as noted otherwise.

3. Each restrained joint shall be inspected by the Contractor to ensure that it has been “homed” 100 percent.

4. The Contractor shall internally inspect each pipe joint to insure proper assembly for pipe 24-inches in diameter and larger after the pipe has been brought to final alignment.

F. Cutting Pipe: Cut ductile iron pipe using an abrasive wheel saw. The Contractor shall cut the pipe and bevel the end, as necessary, to provide the correct length of pipe necessary for installing the fittings, valves, accessories and closure pieces in the correct location. Only push-on or mechanical joint pipe shall be cut.

G. Lining Repair: Repair epoxy linings and recoat spigot ends of cut pipe with an epoxy coating as specified in Part 2 of this Section and as specified below:

1. Remove all burrs and areas of loose lining materials by sanding or scraping to bare metal.

2. Remove oil and lubricants used during field cutting.

3. Lining shall be stripped back a minimum of 1-inch from the spigot end into well adhered lined areas.

4. Roughen 1 to 2-inches of good lining with a rough grade (40 grit) emery paper, rasp or small chisel, to allow an overlap between new and existing lining.

5. Apply lining repair material in the number of coats required to match the thickness requirements as specified in Part 2 of this Section and in accordance with the manufacturer's recommendations.

H. Valve and Fitting Installation

1. Prior to installation, valves shall be inspected for direction of opening, number of turns to open, freedom of operation, tightness of pressure-containing bolting and test plugs, cleanliness of valve ports and especially seating surfaces, handling damage and cracks. Defective valves shall be corrected or held for inspection by the Engineer. Valves shall be closed before being installed.

2. Valves, fittings, plugs and caps shall be set and joined to the pipe in the manner specified in this Section for cleaning, laying and joining pipe, except that 12-inch and larger valves shall be provided with special support, such as treated timbers, crushed stone, concrete pads or a sufficiently tamped trench bottom so that the pipe will not be required to

support the weight of the valve. Valves shall be installed in the closed position.

3. A valve box shall be provided on each underground valve. They shall be carefully set, centered exactly over the operating nut and truly plumbed. The valve box shall not transmit shock or stress to the valve. The bottom flange of the lower belled portion of the box shall be placed below the valve operating nut. This flange shall be set on brick, so arranged that the weight of the valve box and superimposed loads will bear on the base and not on the valve or pipe. Extension stems shall be installed where depth of bury places the operating nut in excess of 30-inches beneath finished grade so as to set the top of the operating nut 30-inches below finished grade. The valve box cover shall be flush with the surface of the finished area or such other level as directed by the Engineer.

4. In no case shall valves be used to bring misaligned pipe into alignment during installation. Pipe shall be supported in such a manner as to prevent stress on the valve.

5. A valve marker shall be provided for each underground valve. Unless otherwise detailed on the Drawings or directed by the Engineer, valve markers shall be installed 6-inches inside the right-of-way or easement.

I. Hydrant Installation

1. Prior to installation, inspect all hydrants for direction of opening, nozzle threading, operating nut and cap nut dimensions, tightness of pressure-containing bolting, cleanliness of inlet elbow, handling damage and cracks. Defective hydrants shall be corrected or held for inspection by the Engineer.

2. All hydrants shall stand plumb and shall have their nozzles parallel with or at right angles to the roadway, with pumper nozzle facing the roadway, except that hydrants having two-hose nozzles 90 degrees apart shall be set with each nozzle facing the roadway at an angle of 45 degrees.

3. Hydrants shall be set to the established grade, with the centerline of the lowest nozzle at least 12-inches above the ground or as directed by the Engineer.

4. Each hydrant shall be connected to the main with a 6-inch branch controlled by an independent 6-inch valve. When a hydrant is set in soil that is pervious, drainage shall be provided at the base of the hydrant by placing coarse gravel or crushed stone mixed with coarse sand from the bottom of the trench to at least 6-inches above the drain port opening in the hydrant to a distance of 12-inches around the elbow.

5. When a hydrant is set in clay or other impervious soil, a drainage pit 2 x 2 x 2 feet shall be excavated below each hydrant and filled with coarse gravel or crushed stone mixed with coarse sand under and around the elbow of the hydrant and to a level of 6-inches above the drain port.

6. Hydrants shall be located as shown on the Drawings or as directed by the Engineer. In the case of hydrants that are intended to fail at the

ground-line joint upon vehicle impact, specific care must be taken to provide adequate soil resistance to avoid transmitting shock moment to the lower barrel and inlet connection. In loose or poor load bearing soil, this may be accomplished by pouring a concrete collar approximately 6-inches thick to a diameter of 24-inches at or near the ground line around the hydrant barrel.

J. Air Valve Manholes

1. Construct the manhole as detailed on the Drawings.

2. The frame and cover shall be cast into the top slab or cone.

3. Manholes shall be constructed such that their walls are plumb.

K. Electronic markers will be provided for all water mains. Electronic markers shall be installed at an interval of 20-feet or as directed by the Engineer.

3.06 Connections to Water Mains

A. Make connections to existing pipe lines with tapping sleeves and valves, unless specifically shown otherwise on the Drawings.

B. Location: Before laying pipe, locate the points of connection to existing water mains and uncover as necessary for the Engineer to confirm the nature of the connection to be made.

C. Interruption of Services: Make connections to existing water mains only when system operations permit. Operate existing valves only with the specific authorization and direct supervision of the Owner.

D. Tapping Saddles and Tapping Sleeves

1. Holes in the new pipe shall be machine cut, either in the field or at the factory. No torch cutting of holes shall be permitted.

2. Prior to attaching the saddle or sleeve, the pipe shall be thoroughly cleaned, utilizing a brush and rag, as required.

3. Before performing field machine cut, the watertightness of the saddle or sleeve assembly shall be pressure tested. The interior of the assembly shall be filled with water. An air compressor shall be attached, which will induce a test pressure as specified in this Section. No leakage shall be permitted for a period of five minutes.

4. After attaching the saddle or sleeve to an existing main, but prior to making the tap, the interior of the assembly shall be disinfected. All surfaces to be exposed to potable water shall be swabbed or sprayed with a one percent hypochlorite solution.

E. Connections Using Solid Sleeves: Where connections are shown on the Drawings using solid sleeves, the Contractor shall furnish materials and labor necessary to make the connection to the existing pipe line.

F. Connections Using Couplings: Where connections are shown on the Drawings using couplings, the Contractor shall furnish materials and labor necessary to make the connection to the existing pipe line, including all necessary cutting, plugging and backfill.

3.07 Thrust Restraint

A. Provide restraint at all points where hydraulic thrust may develop.

B. Retainer Glands: Provide retainer glands where shown on the Drawings and on fire hydrants and all associated fittings, valves and related piping. Retainer glands shall be installed in accordance with the manufacturer's recommendations, particularly, the required torque of the set screws. The Contractor shall furnish a torque wrench to verify the torque on all set screws which do not have inherent torque indicators.

C. Hydrants: Hydrants shall be attached to the water main by the following method:

1. The isolation valve shall be attached to the main by connecting the valve to the hydrant tee.

2. The isolation valve shall be attached to the hydrant by providing an anchor coupling between the valve and hydrant, if the hydrant and valve are less than two feet apart. Otherwise, provide ductile iron pipe with retainer glands on the hydrant and valve.

D. Thrust Collars: Collars shall be constructed as shown on the Drawings. Concrete and reinforcing steel shall meet the requirements as specified in this Section. The welded-on collar shall be designed to meet the minimum allowable load shown on the Drawings. The welded-on collar shall be attached to the pipe by the pipe manufacturer.

E. Concrete Blocking

1. Provide concrete blocking for all bends, tees, valves, and other points where thrust may develop, except where other exclusive means of thrust restraint are specifically shown on the Drawings.

2. Concrete shall be as specified in this Section.

3. Form and pour concrete blocking at fittings as shown on the Drawings and as directed by the Engineer. Pour blocking against undisturbed earth. Increase dimensions when required by over excavation.

3.08 Inspection and Testing

A. Pressure and Leakage Test

1. All sections of the water main subject to internal pressure shall be pressure tested in accordance with AWWA C600. A section of main will be considered ready for testing after completion of all thrust restraint and backfilling.

2. Each segment of water main between main valves shall be tested individually.

3. Test Preparation

   a. For water mains less than 24-inches in diameter, flush sections thoroughly at flow velocities, greater than 2.5 feet per second, adequate to remove debris from pipe and valve seats. For water mains 24-inches in diameter and larger, the main shall be carefully swept clean, and mopped if directed by the Engineer. Partially open valves to allow the water to flush the valve seat.

   b. Partially operate valves and hydrants to clean out seats.

   c. Provide temporary blocking, bulkheads, flanges and plugs as necessary, to assure all new pipe, valves, and appurtenances will be pressure tested.

   d. Before applying test pressure, air shall be completely expelled from the pipeline and all appurtenances. Insert corporation cocks at highpoints to expel air as main is filled with water as necessary to supplement automatic air valves. Corporation stops shall be constructed as detailed on the Drawings with a meter box.

   e. Fill pipeline slowly with water. Provide a suitable pump with an accurate water meter to pump the line to the specified pressure.

   f. The differential pressure across a valve or hydrant shall equal the maximum possible, but not exceed the rated working pressure. Where necessary, provide temporary backpressure to meet the differential pressure restrictions.

   g. Valves shall not be operated in either the opening or closing direction at differential pressures above the rated pressure.

4. Test Pressure: Test the pipeline at 250 psi measured at the lowest point for at least two hours. Maintain the test pressure within 5 psi of the specified test pressure for the test duration. Should the pressure drop more than 5 psi at any time during the test period, the pressure shall be restored to the specified test pressure. Provide an accurate pressure gage with graduation not greater than 5 psi.

5. Leakage

   a. Leakage shall be defined as the sum of the quantity of water that must be pumped into the test section, to maintain pressure within 5 psi of the specified test pressure for the test duration plus water required to return line to test pressure at the end of the test. Leakage shall be the total cumulative amount measured on a water meter.

   b. The Owner assumes no responsibility for leakage occurring through existing valves.

6. Test Results: No test section shall be accepted if the leakage exceeds the limits determined by the following formula:

$$L = \frac{SD\,(P)1/2}{133{,}200}$$

Where: L = allowable leakage, in gallons per hour
S = length of pipe tested, in feet
D = nominal diameter of the pipe, in inches
P = average test pressure during the leakage test, in pounds per square inch (gauge)
As determined under Section 4 of AWWA C600.

If the water main section being tested contains lengths of various pipe diameters, the allowable leakage shall be the sum of the computed leakage for each diameter. The leakage test shall be repeated until the test section is accepted. All visible leaks shall be repaired regardless of leakage test results.

7. Completion: After a pipeline section has been accepted, relieve test pressure. Record type, size and location of all outlets on record drawings.

3.09 Disinfecting Pipeline

A. After successfully pressure testing each pipeline section, disinfect in accordance with AWWA C651 for the continuous-feed method and these Specifications.

B. Specialty Contractor: Disinfection shall be performed by an approved specialty contractor. Before disinfection is performed, the Contractor shall submit a written procedure for approval before being permitted to proceed with the disinfection. This plan shall also include the steps to be taken for the neutralization of the chlorinated water.

C. Chlorination

1. Apply chlorine solution to achieve a concentration of at least 25 milligrams per liter free chlorine in new line. Retain chlorinated water for 24 hours.

2. Chlorine concentration shall be recorded at every outlet along the line at the beginning and end of the 24 hour period.

3. After 24 hours, all samples of water shall contain at least 10 milligrams per liter free chlorine. Re-chlorinate if required results are not obtained on all samples.

D. Disposal of Chlorinated Water: Reduce chlorine residual of disinfection water to less than one milligram per liter if discharged directly to a body of water or to less than two milligrams per liter if discharged onto the ground prior to disposal. Treat water with sulfur dioxide or other reducing chemicals to neutralize chlorine residual. Flush all lines until residual is equal to existing system.

E. Bacteriological Testing: After final flushing and before the water main is placed in service, the Contractor shall collect samples from the line and have tested for bacteriological quality in accordance with the rules of the Georgia Department of Natural Resources, Environmental Protection Division. Testing shall be performed by a laboratory certified by the State of Georgia. Re-chlorinate lines until required results are obtained.

3.10 Protection and Restoration of Work Area

A. General: Return all items and all areas disturbed, directly or indirectly by work under these Specifications, to their original condition or better, as quickly as possible after work is started.

1. The Contractor shall plan, coordinate, and prosecute the work such that disruption to personal property and business is held to a practical minimum.

2. All construction areas abutting lawns and yards of residential or commercial property shall be restored promptly. Backfilling of underground facilities, ditches, and disturbed areas shall be accomplished on a daily basis as work is completed. Finishing, dressing, and grassing shall be accomplished immediately thereafter, as a continuous operation within each area being constructed and with emphasis placed on completing each individual yard or business frontage. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.

3. Handwork, including raking and smoothing, shall be required to ensure that the removal of roots, sticks, rocks, and other debris is removed in order to provide a neat and pleasing appearance.

4. The Department of Transportation's engineer shall be authorized to stop all work by the Contractor when restoration and cleanup are unsatisfactory and to require appropriate remedial measures.

B. Man-Made Improvements: Protect, or remove and replace with the Engineer's approval, all fences, walkways, mail boxes, pipe lines, drain culverts, power and telephone lines and cables, property pins and other improvements that may be encountered in the Work.

C. Cultivated Growth: Do not disturb cultivated trees or shrubbery unless approved by the Engineer. Any such trees or shrubbery which must be removed shall be heeled in and replanted under the direction of an experienced nurseryman.

D. Cutting of Trees: Do not cut trees for the performance of the work except as absolutely necessary. Protect trees that remain in the vicinity of the work from damage from equipment. Do not store spoil from excavation against the trunks. Remove excavated material stored over the root system of trees within 30 days to allow proper natural watering of the root system. Repair any damaged tree over 3-inches in diameter, not to be removed, under the direction of an experienced nurseryman. All trees and brush that require removal shall be promptly and completely removed from the work area and disposed of by the Contractor. No stumps, wood piles, or trash piles will be permitted on the work site.

E. Disposal of Rubbish: Dispose of all materials cleared and grubbed during the construction of the Project in accordance with the applicable codes and rules of the appropriate county, state and federal regulatory agencies.

END OF SECTION

Part 1 General

1.01 Scope

A. The extent of grassing consists of those areas which are disturbed by operations of the Contractor and are not covered over by improvements, except where specifically noted otherwise, together with any additional areas shown on the Drawings or authorized by the Engineer.

B. Types of work required include following:

1. Fine grading and preparing of lawn areas.
2. Furnishing and applying new topsoil.
3. Furnishing and applying soil amendments.
4. Furnishing and applying fertilizers.
5. Seeding lawn areas.
6. Sodding lawn areas.
7. Planting lawn areas with plugs.
8. Reconditioning existing lawn areas.
9. Replanting unsatisfactory or damaged lawns.

C. Topsoil for grassing is not available at site. Furnish topsoil as specified under "Materials."

1.03 Submittals

A. General: Submit the following in accordance with Section 01340 of these Specifications.

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

C. Sod Analysis: Notify Engineer of sod source, including name and telephone number of supplier, and seed mix of sod.

1.04 Job Conditions

Planting Time: Sow lawn seed only during normal planting seasons for each type of lawn work required. Correlate planting with specified maintenance periods to provide required maintenance from date of substantial completion.

Specified work is minimum required, and any and all necessary materials and operations including reworking, must be performed to obtain specified results.

1.05 Warranty

Warranty grassing through specified maintenance period and until final acceptance.

Part 2 Products

2.01 New Topsoil

A. Provide topsoil that is fertile, friable, naturally loamy, surface soil; reasonably free of subsoil, clay lumps, brush, weeds, and other litter; and free of roots, stumps, stones larger than 2 inches in any dimension, and other extraneous or toxic matter harmful to plant growth.

B. Obtain topsoil from local sources or from areas having similar soil characteristics to that found at site of work. Obtain topsoil from naturally well-drained sites where topsoil occurs at least 4 inches deep; do not obtain from bogs or marshes.

2.02 Soil Amendments

A. Lime: Natural limestone containing at least 85 percent of total carbonates, ground to such fineness that at least 90 percent passes a 10-mesh sieve and at least 50 percent passes a 100-mesh sieve.

Provide lime in form of dolomitic limestone.

B. Fertilizer: Standard commercial grade fertilizer conforming to the standards of the Association of Official Agricultural Chemists. Provide either grade 4-l2-l2, 6-l2-l2 or 5-l0-l5 at Contractor's option.

C. Nitrogen: Standard commercial grade nitrogen conforming to state fertilizer laws. Provide in either granular or liquid form at Contractor's option.

D. Peat Humus: Finely divided or granular texture and with pH of 6.0 to 7.5 composed of moss peat (other than spagnum), or peat humus, or reed-sedge peat.

E. Sawdust or Ground Bark: Provide type that is nontoxic to plants, of uniform texture, and subject to slow decomposition when mixed with soil. Provide nitrogen-treated sawdust or ground bark, or provide untreated and mix at site with at least 0.15 lbs. of ammonium nitrate or 0.25 lbs. of ammonium sulfate per cu. ft. of loose sawdust or ground bark.

2.03 Grass Materials

A. Seed, Sod, and Plugs will be the same species as the grass removed or damaged at any given location.

B. Grass Seed: Provide fresh, clean, new-crop seed complying with the tolerance for purity and germination established by the Official Seed Analysts of North America. Provide seed of the grass species, proportions and minimum percentages of purity, germination, and maximum percentage of weed seed, as detailed on the Drawings.

Seed shall bear the growers analysis testing to 98 percent for purity and 90 percent for germination. At the discretion of the Engineer, samples of seed may be taken for verification against the grower's analysis.

C. Sod: Provide machine-cut, strongly rooted, certified turfgrass sod, at least 2 years old and free of weeds and undesirable native grasses. Provide sod capable of vigorous growth and development when planted (viable, not dormant) and complying with the following requirements:
Kentucky Bluegrass (Poa pratensis).
Bermuda grass (Cynodon dactylon).
St Augustinegrass (Stenotaphrum secundatum).
Centipedegrass (Eremochloa ophiuroides).

1. Sod Pad Size: Uniform thickness of 5/8 inch, plus or minus 1/4 inch, measured at time of cutting and excluding top growth and thatch. Provide in supplier's standard size of uniform length and width with maximum 5 percent allowable deviation in either length or width. Broken or torn pads with uneven ends are not acceptable.

2. Sod Strength: Provide sod pads capable of supporting their own weight and retaining size and shape when supplier's standard size pad is suspended vertically from a firm grasp on upper 10 percent of the pad.

D. Sod Plugs: Provide strongly rooted certified sod at least 2 years old, free of weeds and undesirable native grasses and capable of growth and development when planted (viable, not dormant). Provide in form suitable for cutting into plugs at least 4 inches thick. Provide sod plugs composed principally of the following:
Manilagrass (Zoysia matrella).
Carpetgrass (Axonopus offinis).
Centipedegrass (Eremochloa ophiuroides).

2.04 Mulch and Water

A. Antierosion Mulch: Provide clean, seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

B. Seed Mulch: Provide peat moss in natural, shredded, or granulated form, of fine texture, with a pH of 4.0 to 6.0 and a water-absorbing capacity of 1,100 to 2,000 percent.

C. Water used to produce grass is to be free of excess and harmful chemicals, acids, alkalies and all other substances which are harmful to plant growth.

D. Asphalt: Homogeneous emulsified asphalt meeting ASTM D 977 which contains no agents harmful or toxic to plant growth.

Part 3 Execution

3.01 General

A. Minimum Operations: These Specifications set forth minimum operations and material applications which are acceptable. However, a satisfactory stand of grass must be obtained by using supplemental methods and/or materials as may be required.

B. Grassing By Private Property: Where grassing is required between curbs and sidewalks or behind sidewalks in areas adjacent to private residential or commercial property, the Engineer may change the type of grassing specified to match any type of grass which may be planted and growing on the adjacent lawn. No modifications of the Contract Unit Price will be made for this substitution.

3.02 Soil Preparation

A. Limit preparation to areas that will be planted in immediate future.

Loosen subgrade to a minimum depth of 4 inches. Remove stones bigger than 1-1/2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter.

Clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to toxic to plant growth.

Mix soil amendments and fertilizers with topsoil at rates specified. Delay mixing of fertilizer if planting will not follow placing of topsoil mixture within a few days. Either mix soil before spreading or apply soil amendments on surface of spread topsoil and mix thoroughly into top 4 inches of topsoil before planting.

Mix lime with dry soil before mixing in fertilizer.
Apply phosphoric acid fertilizer (other than that constituting a portion of complete fertilizers) directly to subgrade before tilling.
Place approximately 1/2 of total amount of topsoil mixture required. Work into top of loosened subgrade to create a transition layer, and then place remainder of topsoil mixture.
Allow for sod thickness in areas to be sodded.

B. Lime and Fertilizer Application:

Spread lime uniformly over the ground surface at the rates detailed on the Drawings.
Spread fertilizer uniformly over the ground surface at the rates detailed on the Drawings.

3.03 Seeding Lawns

A. Sow seed with a spreader or a seeding machine. Do not seed when wind velocity exceeds 5 miles per hour. Distribute seed evenly over entire area by sowing equal quantity in 2 directions at right angles to each other.

Do not use wet seed or seed that is moldy or otherwise damaged in transmit or storage.

Sow no less than the quantity of seed specified.

B. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

C. Protect seeded slopes against erosion with jute mesh erosion netting or other similar coverings acceptable to Engineer.

D. Protect seeded areas against erosion by spreading specified lawn mulch after completion of seeding operations. Spread uniformly to form a continuous blanket at least 1-1/2 inches loose measurement over seeded areas. Spread by hand, blower, or other suitable equipment.

Anchor mulch by spraying with asphalt emulsion at the rate of 10 to 13 gallons per 1,000 sq. ft. Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean such areas where damage occurs.

E. Protect seeded areas against hot, dry weather or drying winds by applying specified mulch within 24 hours after completion of seeding operations. Presoak and scatter evenly to a depth of 1/8 inches to 3/16 inches thick and roll to a smooth surface. Do not mound.

3.04 Hydroseeding Lawns

A. Mix specified seed, fertilizer, and pulverized mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogenous slurry suitable for hydraulic application.

B. Apply slurry uniformly to all areas to be seeded. Rate of application as required to obtain specified seed sowing rate.

3.05 Sodding Lawns

A. Lay sod within 24 hours of stripping. Do not lay dormant sod or if ground is frozen.

B. Lay sod to form solid mass with tightly fitting joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Tamp or roll lightly to ensure contact with subgrade. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering adjacent grass.

C. Anchor sod on slopes with wood pegs as required to prevent slippage.

D. Water sod with fine spray immediately after planting. During first week, water daily or more frequently as necessary to maintain moist soil to depth of 4 inches.

3.06 Plug Sodding Lawns

A. Cut plugs 2 inches to 4 inches square, retaining maximum amount of soil on roots. Do not tear or rip plug from sod mass. Keep roots moist and plant plugs immediately after cutting.

B. Plant plugs in holes on furrows. On slopes (if any), contour furrows to near level to prevent washing in heavy rains. Space plugs 12 inches apart in both directions.

3.07 Reconditioning Lawns

A. Recondition existing lawn areas damaged by Contractor's operations including storage of materials or equipment and movement of vehicles. Also recondition

lawn areas where settlement or washouts occur or where minor regrading is required. Recondition other existing lawn areas where indicated.

B. Provide fertilizer, seed or sod, and soil amendments as specified for new lawns and as required to provide satisfactorily reconditioned lawn. Provide new planting soil as required to fill low spots and meet new finish grades.

C. Cultivate bare and compacted areas thoroughly to provide a good, deep planting bed.

D. Remove diseased or unsatisfactory lawn areas; do not bury into soil. Remove topsoil containing foreign materials resulting from Contractor's operations including oil drippings, stone, gravel, and other construction materials; replace with new topsoil.

E. Where substantial lawn remains (but is thin), mow, rake, aerate if compacted, fill low spots, remove humps, cultivate soil, fertilize, and seed. Remove weeds before seeding. If weeds are extensive, apply selective chemical weed killers as required. Apply a seedbed mulch, if required, to maintain moist condition.

F. Water newly planted areas and keep moist until new grass is established.

3.08 Application of Nitrogen

A. Make two applications of nitrogen to all grassed areas using mechanical spreading equipment. Apply at a uniform rate of not less than 70 pounds per acre per application. Make both applications only when weather conditions will permit uniform and even distribution and when moisture conditions will not cause harm to grass.

B. Place first application of nitrogen when young grass reaches a height of at least one inch. Make the second application of nitrogen between 30 and 45 days after the first application.

3.09 Protection

Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period until lawn is established.

3.10 Maintenance

A. Begin maintenance of lawns immediately after each area is planted and continue for the periods required to establish acceptable lawns, but no less than the following:

1. Seeded lawns, at least 60 days, after date of substantial completion.

   If seeded in fall and not given full 60 days of maintenance, or if not considered acceptable at that time, continue maintenance during following spring until acceptable lawn is established.

2. Sodded lawns, at least 30 days after date of substantial completion.

3. Sod plug lawns, at least 30 days after date of substantial completion.

B. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading, replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas.

C. Remulch with new mulch in areas where mulch has been disturbed by wind or maintenance operations sufficiently to nullify its purpose. Anchor as required to prevent displacement.

D. Replant bare areas with same materials specified for lawns.

E. Watering: Provide and maintain temporary piping, hoses and lawn watering equipment to convey water from sources and to keep lawn areas uniformly moist as required for proper growth.

F. Lay out temporary lawn-watering system and arrange watering schedule to prevent puddling, water erosion, and displacement of seed or mulch (if any). Lay out temporary watering system to avoid necessity of walking over muddy or newly seeded areas.

G. Mow lawns as soon as there is enough top growth to cut with mower set at specified height for principal species planted. Repeat mowing as required to maintain specified height. Remove no more than 40 percent of grass leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Time initial and subsequent mowings to maintain following grass height:

   Mow grass from 1-1/2 inches to 2 inches high. Do not mow to less than 1-1/2 inches.

H. Apply second fertilizer application after first mowing and when grass is dry.

   Use fertilizer that will provide at least 1.0 lb. of actual nitrogen per 1,000 sq. ft. of lawn area.

3.11 Required Coverage

A. Grassed areas will be considered acceptable when a viable stand of grass covers at least 98 percent of the total area with no bare spots exceeding one square foot and the ground surface is fully stabilized against erosion.

3.12 Acceptance

A. When work is substantially completed, including maintenance, Engineer will, upon request, make an inspection to determine acceptability.

B. Lawn work may be inspected for acceptance in parts agreeable to Engineer, provided work offered for inspection is complete, including maintenance.

C. Repaint rejected work and continue specified maintenance until reinspected by Engineer and found to be acceptable.

D. Seeded lawns will be acceptable provided requirements, including maintenance and coverage, have been met and healthy, uniform close stand of specified grass is established free of weeds, bare spots, and surface irregularities.

E. Sodded lawns will be acceptable provided requirements, including maintenance and coverage, have been met and required number of plugs are established as well-rooted, viable patches of grass and areas between plugs are free of weeds and other undesirable vegetation.

F Plugged lawns will be acceptable, provided requirements, including maintenance and coverage, have been met and required number of plugs are established as well-rooted, viable patches of grass and areas between plugs are free of weeds and other undesirable vegetation.

3.13 Clean Up

A. Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto surface of roads, walks, or other paved areas.

END OF SECTION

Exhibit A – Easements

(1)

Deed Book 32911 Pg 117
Filed and Recorded Aug-13-2002 09:42am
2002-0242285
Real Estate Transfer Tax $0.00
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]

*****THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION*****

Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 18th day of July, 2002, between **Virginia E. Schroeder** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of $1,962.00 cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 888 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A permanent easement 30 feet in width along and adjacent to the West side of Providence Road. Said easement contains an area of 1,961.6 Square Feet as shown on the attached plat, said plat being attached to and make a part of this document by reference.

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said sewer line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered

this 18th day of July,

2002, in the presence of

Witness

Notary Public

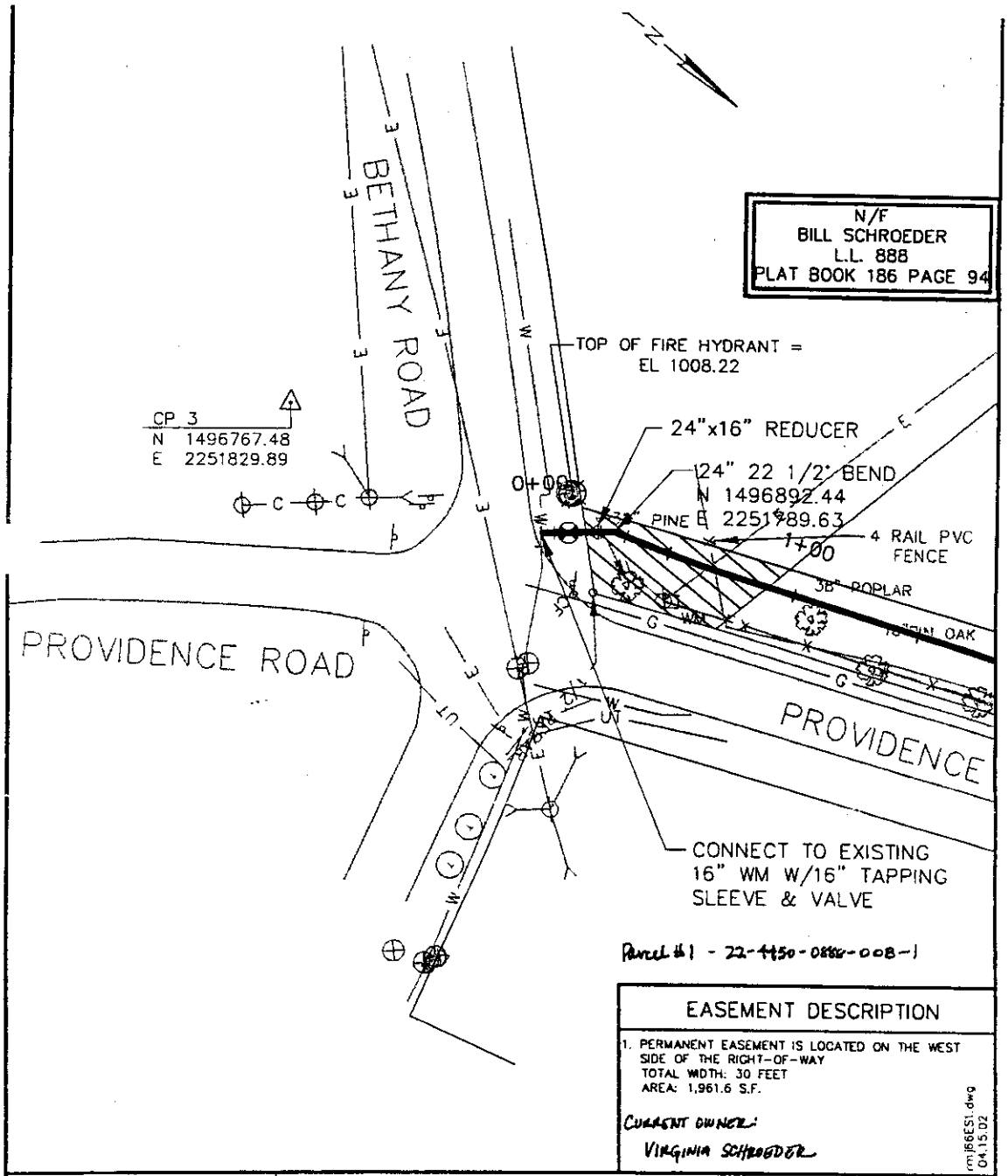
Deborah E. Rusnell
Notary Public, Gwinnett County, Georgia
My Commission Expires August 11, 2002

By: Virginia E. Schroeder (LS)

Print Name: VIRGINIA E. SCHROEDER

Title: Property Owner

Deed Book 32911 Pg 118
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia



EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE WEST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 30 FEET
AREA: 1,961.6 S.F.

CURRENT OWNER:
VIRGINIA SCHROEDER

rm:J66ES1.dwg
04.15.02

Jordan Jones & Goulding	FREEMANVILLE ROAD WATER MAIN BOC, FULTON COUNTY, GEORGIA CROSSING PROPERTY OF BILL SCHROEDER	DATE : OCTOBER, 2001 SCALE : 1" = 50' JOB NO.: 7080-066 CHECKED: SHEET 1 OF 1

(2)

Deed Book 32421 Pg 414
Filed and Recorded May-20-2002 02:30pm
2002-0154371
Real Estate Transfer Tax $0.00
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]
THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION

Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 1st day of April, 2002, between **Carolyn S. McCoy** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of ~~$1.00~~ $15,000 cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 888 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A permanent easement 30/50 feet in width along and adjacent to the West side of Providence Road. Said easement contains an area of 32,351.3 Square Feet as shown on the attached plat, said plat being attached to and make a part of this document by reference.

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered
this 1st day of April,
2002, in the presence of

Witness

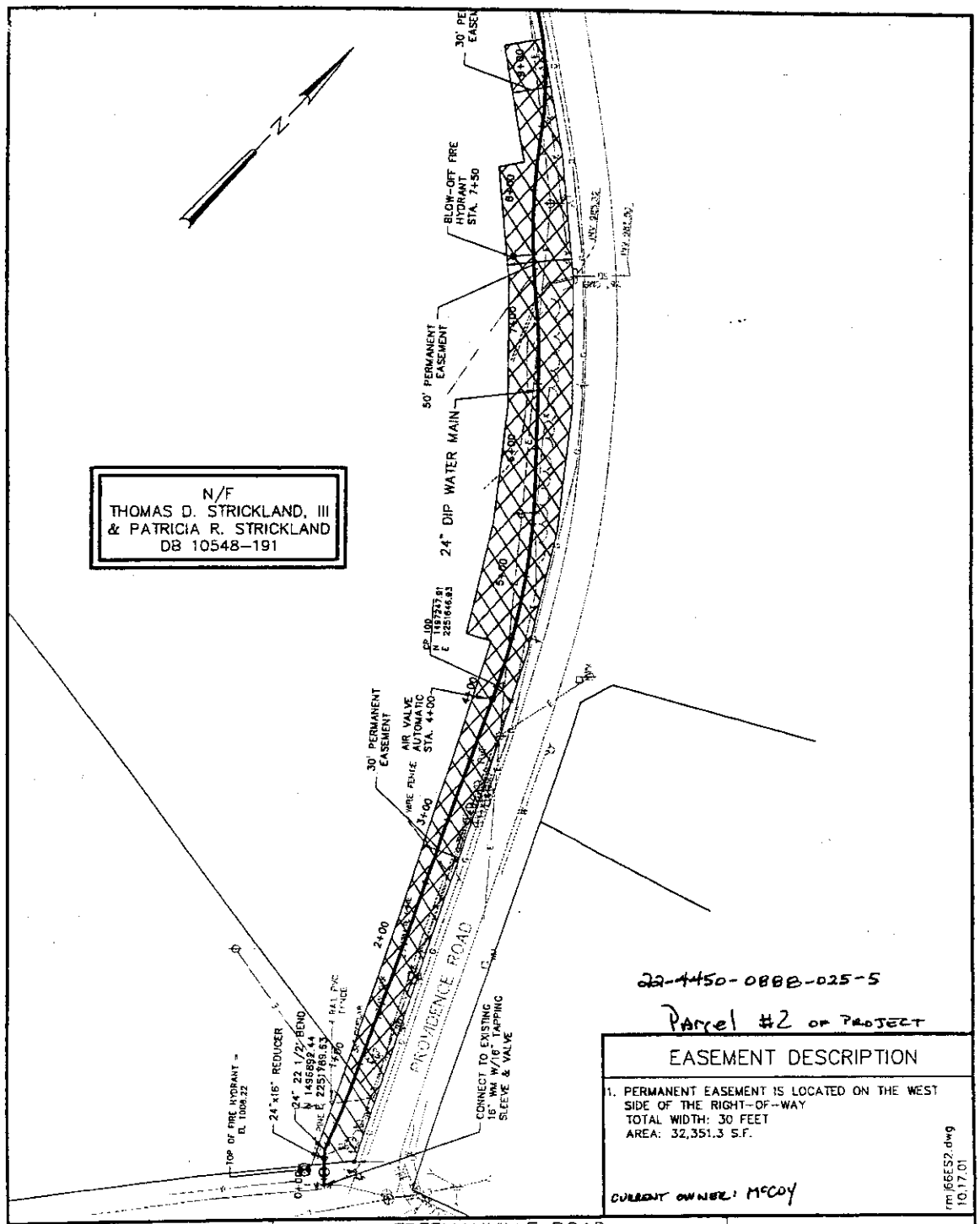
Notary Public

By: Carolyn S. McCoy (LS)

Print Name: CAROLYN S. MCCOY

Title: Property Owner

Deed Book 32421 Pg 415
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia



EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE WEST SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: 30 FEET
   AREA: 32,351.3 S.F.

CURRENT OWNER: McCOY

rm/66ES2.dwg
10.17.01

Jordan Jones & Goulding

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
THOMAS D. STRICKLAND, III
& PATRICIA R. STRICKLAND

DATE : OCTOBER, 2001
SCALE : 1" = 100'
JOB NO.: 7080-066
CHECKED:
SHEET 1 OF 1

(5A)

----------[SPACE ABOVE RESERVED FOR RECORDING DATA]----------

Return to: Fulton County
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, Georgia 30303

STATE OF GEORGIA

COUNTY OF FULTON

WATER MAIN EASEMENT AGREEMENT

This grant of Easement made this 20 day of JULY, 2002, by and between **HOLCOMBE'S FARMS HOMEOWNERS ASSOCIATION, INC.**, a Georgia nonprofit corporation, as party of the first part (hereinafter referred to as "Grantor") and **FULTON COUNTY**, a Political Subdivision of the State of Georgia, as party of the second part (hereinafter referred to as "Grantee") (the words Grantor and Grantee to include their respective successors and assigns);

WITNESSETH

WHEREAS, Grantor is an incorporated property owners' association responsible for the care and maintenance of the Association Property of the Subdivision known as Holcombe's Farm; and

WHEREAS, Grantor has certain equitable easement rights to the use and enjoyment of the property known as Parcel 5, Parcel 5A, and Parcel 6 (hereinafter referred to as "Parcels") which property is further described and/or depicted in the plats attached hereto as Exhibit "A", Exhibit "B", and Exhibit "C", which property is also within the Holcombe's Farm subdivision (hereinafter referred to as "Holcombe's Farm"); and

WHEREAS, Grantee desires a permanent water line easement, on and through a portion of the Parcels in order to install and maintain a water line as part of a project known as the Freemanville Road Water Main Project, Project Number 7080-066; and

WHEREAS, Grantee additionally desires a temporary construction easement to permit the installation of the water line; and

WHEREAS, Grantor, acting through its Board of Directors, has the power to manage all of the Association's affairs, including the granting of easements through and over property in which the Association has equitable easement interests in accordance with Article VI, Section 6.4 of the Declaration of Protective Covenants, Agreements, Easements, Charges and Liens for Holcombe's Farm (the "Declaration") and pursuant to O.C.G.A. § 44-3-231 of the Georgia Property Owners' Association Act (the "Act"); and

WHEREAS, Grantor's Board of Directors approved the granting of a non-exclusive permanent easement and a temporary construction easement for construction, repair, replacement, maintenance, and improvement of the water line as is herein described, at a duly constituted meeting of the Board which easement grants any and all equitable interests that the Association and its members may have in the Parcels;

NOW, THEREFORE, in consideration of the sum of Ten ($10.00) Dollars paid by Grantee to Grantor and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

1.

Grantor does hereby convey to Grantee the following easements on and through the Parcels, located in Fulton County, Georgia, which easements are more particularly described as follows:

A. Temporary Construction Easement. Grantor hereby grants, bargains and conveys (1) a thirty (30) square foot, temporary construction easement over, under and through Parcel 5, located in Land Lot 844 of the 2nd District, 2nd Section, Fulton County, Georgia, as shown on that certain Freemanville Road Water Main survey prepared for the Board of County Commissioners, Fulton County, Georgia, by Jordan Jones & Goulding, Inc. dated October 2001; (2) a five hundred (500) square foot, temporary construction easement over, under and through Parcel 5A, located in Land Lot 844, of the 2nd Section, 2nd District, Fulton County, Georgia, as shown on that certain Freemanville Road Water Main survey prepared for the Board of County Commissioners, Fulton, County, Georgia, by Jordan Jones & Goulding, Inc. dated October 2001; (3) a sixty-seven and nine-tenths (67.9) square foot, temporary construction easement over, under and through Parcel 6, located in Land Lot 844 of the 2nd District, 2nd Section, Fulton County, Georgia, as shown on that certain Freemanville Road Water Main survey prepared for the Board of County Commissioners, Fulton, County, Georgia, by Jordan Jones & Goulding, Inc. dated October 2001. All portions of the water line shall be constructed in accordance with the referenced surveys, and the water line shall be as depicted thereon. The temporary construction easement will expire at the earlier of two years from the date of execution of this Easement Agreement or sixty (60) days after completion of construction, whichever is earlier, and Grantee shall ensure that its contractors remove all of its waste materials and rubbish from Holcombe's Farm, if any, as well as all of its tools, construction equipment, machinery, and surplus materials.

B. Permanent Water Line Easement. Grantor hereby grants, bargains and conveys to Grantee the following non-exclusive water line easement over, under, and through Parcel 6 as depicted on the aforementioned survey for Parcel 6 ("Easement Area"). The permanent water line easement conveyed by this instrument is eight hundred twenty-six and eight-tenths (826.8) square feet in width. The water line shall be situated within the said permanent easement.

2.

Grantee will pay Grantor within sixty (60) days from the date of execution of this Easement Agreement One Thousand and No/100 ($1,000.00) Dollars in consideration for Grantor's agreement to remove the tree stump located to the left of the entrance monument adjacent to the west side of the North Burgess Trail in the Holcombe's Farms subdivision no later than October 15, 2002.

3.

Grantee shall, at all times during the construction, repair, replacement, maintenance, and improvement of the water line, keep those portions of the Holcombe's Farm subdivision surrounding the easement free from accumulation of waste materials, rubbish, or construction materials caused by its operations. Notwithstanding anything herein to the contrary, except as to the easement areas, no easement or other right is granted herein to Grantee in regard to the Holcombe's Farm subdivision.

4.

Grantee shall be responsible for the reasonable preservation and shall use utmost and ordinary care to prevent damage to all improvements in the easement areas. Grantee shall ensure that all improvements are restored to a condition equal to or better than that which existed prior to construction; provided, trees removed from the water line easement area shall be replaced with like shrubbery or landscaping.

5.

All vehicular and pedestrian access to the easement areas by Grantee or its agents for construction and maintenance of the water lines shall be through only the easement areas. No construction vehicle or other vehicular or pedestrian access is permitted on any other portion of the Holcombe's Farm subdivision, except the easement areas.

6.

No later than the end of the immediately following planting season after the completion of construction of the water lines, Grantee shall landscape the easement areas in a neat and appropriate condition compatible with its surrounding areas.

7.

All costs associated with the installation, construction, repair, replacement, maintenance, and improvement of the water line shall be borne by the Grantee. Grantee agrees to pay Grantor's legal expenses incurred associated with this Easement Agreement within sixty (60) days from the date of execution of this Easement Agreement in the amount of Five Hundred Fifty and No/100 ($550.00) Dollars.

8.

Grantee shall take all precautions necessary to protect the public against injury, and, where necessary, will post warning flags, signs, and signals and cordon off the easement area at such times and places as public safety may require. Grantee shall also assure that the manhole or other structure providing access to the water line remains covered at all times, except in the event maintenance work is being performed on the water line.

9.

To the fullest extent permitted by law, Grantee shall indemnify and hold harmless Grantor, and its members, officers, and directors from any and all claims, damages, losses, and expenses, including, but not limited to, attorney's fees, arising out of, resulting from, or in any way related to the Grantee's exercise of the rights conveyed to Grantee hereunder or performance of any work by Grantee, its agents or employees. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph.

10.

This easement shall be for the use, benefit and enjoyment of Grantee and its respective assigns, legal representatives, and successors-in-title and shall be binding upon Grantor and its assigns, legal representatives and successors-in-title. All rights and easements granted herein are conditioned upon and limited to the equitable easement interests of the Grantor.

11.

Commencement of construction work by the Grantee shall constitute acceptance by the Grantee of the terms and conditions set forth in this Easement Agreement.

IN WITNESS WHEREOF, this Easement Agreement is executed under seal by the undersigned this 20 day of JULY, 2002.

GRANTOR:

HOLCOMBE'S FARMS HOMEOWNERS ASSOCIATION, INC.

Signed, sealed, and delivered
this 20 day of July, 2002.

By: Cynthia Kirby [Seal]
President: Cynthia Kirby

MONICA LOPEZ
Witness

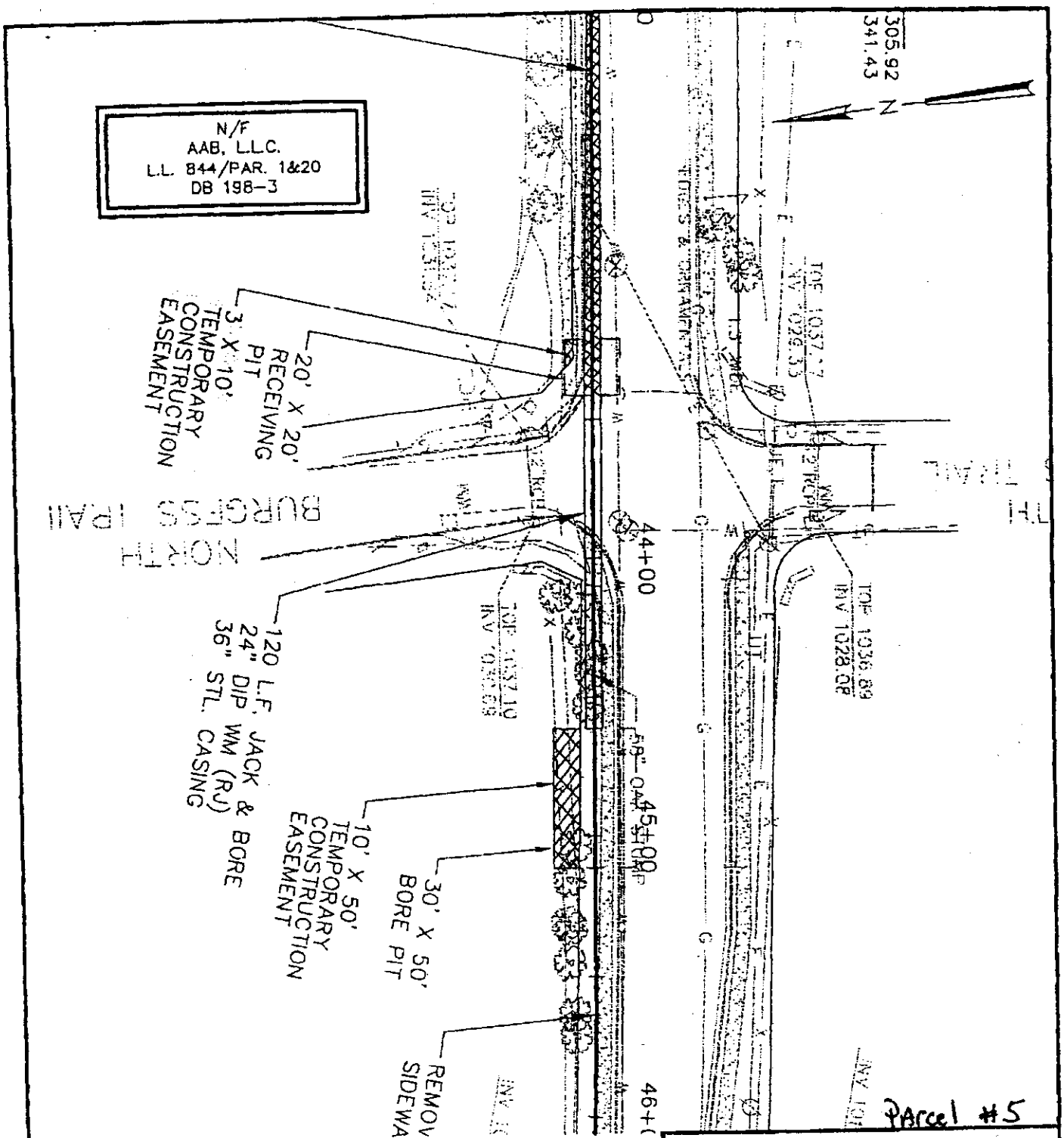
Attest: Rosemary D. Davidson [Seal]
Secretary: Rosemary D. Davidson

[CORPORATE SEAL]

Notary Public
Notary Public, Fulton County, Georgia
My Commission Expires April 4, 2005
[Notary Public]

145792_2.DOC

EXHIBIT "A"



EASEMENT DESCRIPTION

1. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE NORTH SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 3 FEET & 10 FEET
AREA: 500.3 S.F.

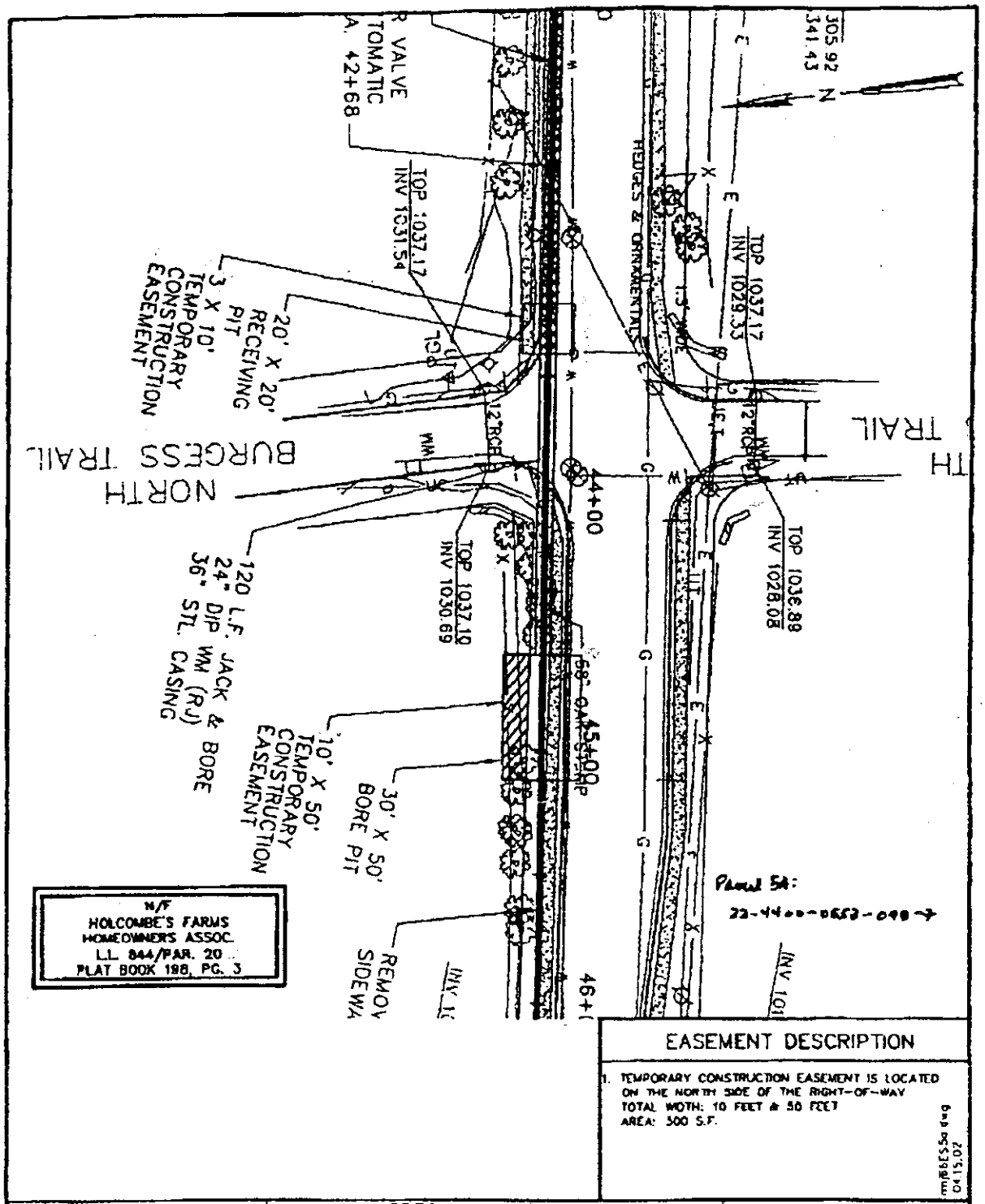
rmj66E55.dwg
10.17.01

Jordan Jones &

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF

DATE : OCTOBER, 2001
SCALE : 1" = 50'
JOB NO.: 7080-066
CHECKED:

EXHIBIT "B"

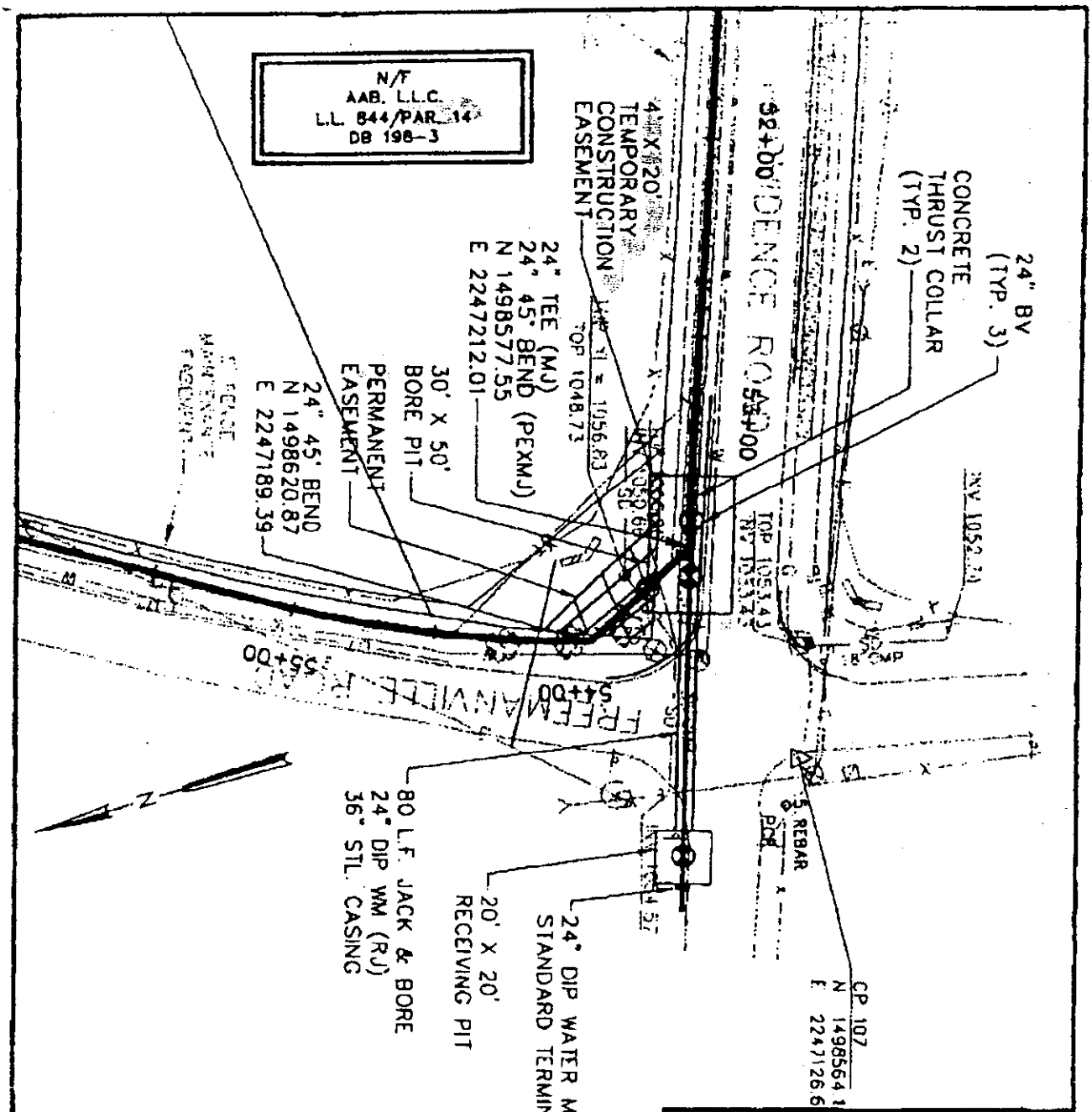


EASEMENT DESCRIPTION

1. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE NORTH SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 10 FEET & 50 FEET
AREA: 500 S.F.

Jordan Jones & Goulding	FREEMANVILLE ROAD WATER MAIN BOC, FULTON COUNTY, GEORGIA CROSSING PROPERTY OF HOLCOMBE'S FARMS HOMEOWNERS ASSOCIATION, INC.	DATE : OCTOBER, 2001 SCALE : 1" = 50' JOB NO.: 7080-066 CHECKED: SHEET 1 OF 1

EXHIBIT "C"



Parcel 6:
CURRENT OWNER: SIEL E! JENNY CHRISTIANSEN
22-4260-0844-045-2

EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE NORTH SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: VARIES
   AREA: 826.8 S.F.
2. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE NORTH SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: 4 FEET
   AREA: 67.9 S.F.

bmp 5/19/01 01:30

Jordan Jones & Goulding	FREEMANVILLE ROAD WATER MAIN BOC, FULTON COUNTY, GEORGIA CROSSING PROPERTY OF AAB, L.L.C.	DATE: OCTOBER, 2001 SCALE: 1" = 50' JOB NO.: 7080-066 CHECKED: SHEET 1 OF 1

JWALLACE

Deed Book 33054 Pg 672
Filed and Recorded Sep-06-2002 03:01pm
2002-0264634
Real Estate Transfer Tax $0.00
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

(6)

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Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

STATE OF GEORGIA,
FULTON COUNTY

This indenture entered into this 11th day of August, 2002, between **Joel E. Christianson and Jenny L. Christianson** of said state and county, party of the first part and Grantor, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part and Grantee.

WITNESSETH, that for and in consideration of $2,000.00 dollars cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 844 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A permanent easement adjacent to the west side of Freemanville Road and the north side of Providence Road containing an area of 826.8 square feet, and a one-year temporary easement, beginning at the time of construction, 4 by 20 feet containing an area of 67.9 square feet. Said easements are shown on the attached plat, said plat being attached to and made a part of this document by reference.

SPECIAL STIPULATIONS

1. Grantee shall, at all times during the construction, repair, replacement, maintenance, and improvement of the water line, keep those portions of the Grantor's lot surrounding the easement free from accumulation of waste materials, rubbish, or construction materials caused by its operations. Notwithstanding anything herein to the contrary, except as to the easement areas, no easement or other right is granted herein to Grantee in regards to the Grantor's lot.

2. Grantee shall be responsible for the reasonable preservation and shall use utmost and ordinary care to prevent damage to all improvements in the easement areas. Grantee shall ensure that all improvements are restored to a condition equal to or better than that which existed prior to construction; provided, trees removed from the water line easement area shall be replaced with like shrubbery or landscaping.

3. All vehicular and pedestrian access to the easement areas by Grantee or its agents for construction and maintenance of the water lines shall be through only the easement areas. No construction vehicle or other vehicular or pedestrian access is permitted on any other portion of the Grantor's lot, except in the easement areas.

4. No later than the end of the immediately following planting season after the completion of construction of the water lines, Grantee shall landscape the easement areas in a neat and appropriate condition compatible with its surrounding areas.

5. Grantee shall take all precautions necessary to protect the public against injury, and where necessary, will post warning flags, signs, and signals and cordon off the easement area at such times and places as public safety may require. Grantee shall also assure that the manhole or other structure provide access to the water line remains covered at all times, except in the event maintenance work is being performed on the water line.

6. To the fullest extent permitted by law, Grantee shall indemnify and hold harmless Grantor from any and all claims, damages, losses, and expenses including, but not limited to, attorney's fees, arising out of, resulting from, or in any way related to the Grantee's exercise of the rights conveyed to Grantee hereunder or performance of any work by Grantee, its agents or employees. Such obligation shall not be construed to negate, abridge or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Paragraph.

7. The temporary construction easement will expire at the earlier of two years from the date of execution of this easement document or sixty (60) days after completion of construction, whichever is earlier.

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement unto the said party of the second part, its heirs and assigns.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered
this 12 day of August, 20 02, in the presence of

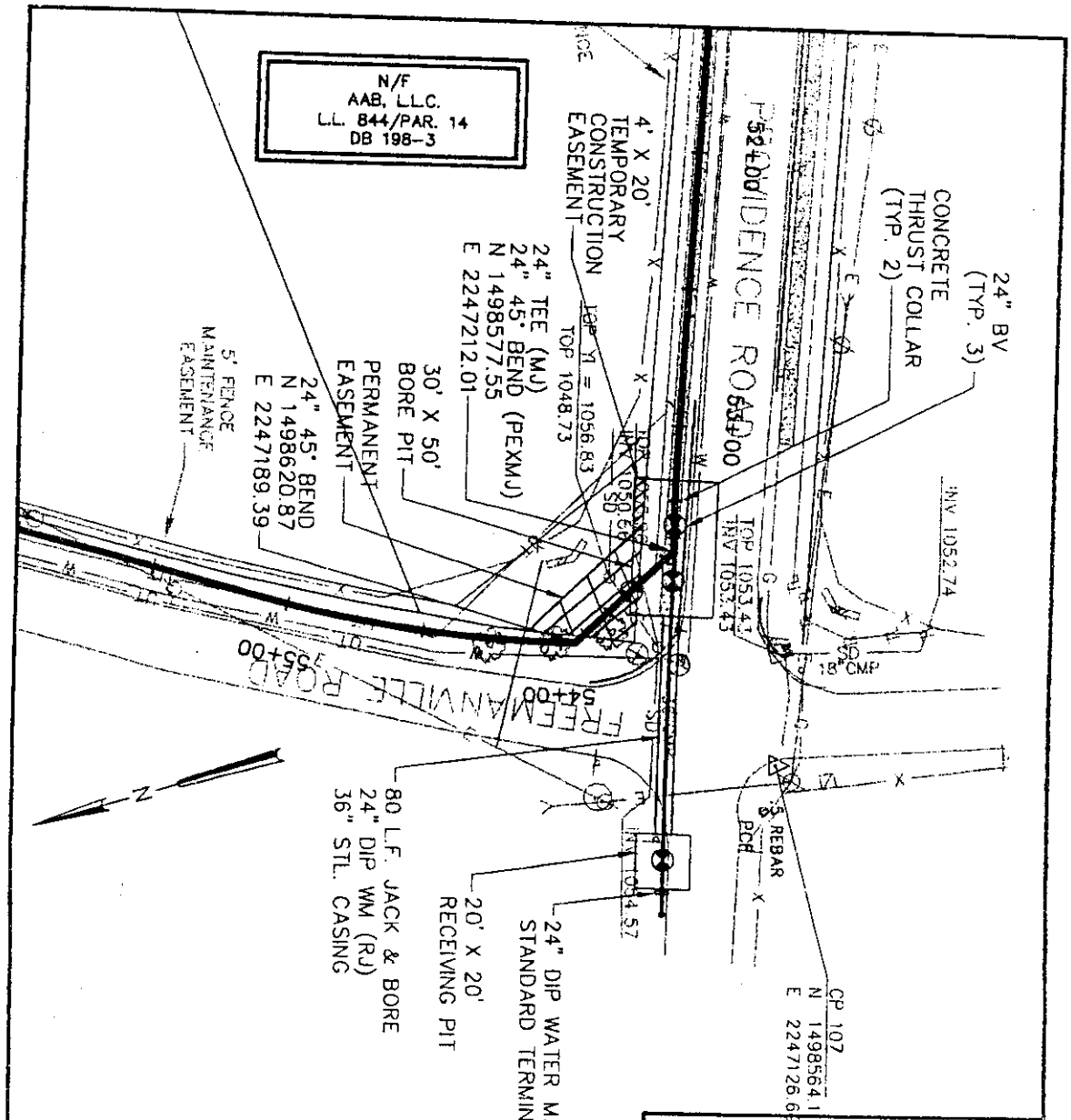
Debbie M. Harmon (LS)
Witness
Jerry L McMillan
Debbie M Harmon
Notary Public
My Commission Expires July 1, 2003

By: Joel E Christianson (LS)
Print Name: JOEL E. CHRISTIANSON
Title: Property Owner

By: Jenny L. Christianson (LS)
Print Name: JENNY L. CHRISTIANSON
Title: Property Owner

DEBBIE M. HARMON
NOTARY
EXPIRES
GEORGIA
JULY 1, 2003
PUBLIC
FULTON COUNTY

Deed Book 33054 Pg 674
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia



Parcel 6:
CURRENT OWNER: JOEL E. & JENNY CHRISTIANSEN
22-4200-0844-045-2

EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE NORTH SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: VARIES
   AREA: 826.8 S.F.
2. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE NOTTH SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: 4 FEET
   AREA: 67.9 S.F.

20515.10
bw-95396.mp

Jordan Jones & Goulding	FREEMANVILLE ROAD WATER MAIN	DATE : OCTOBER, 2001
	BOC, FULTON COUNTY, GEORGIA	SCALE : 1" = 50'
	CROSSING PROPERTY OF	JOB NO.: 7080-066
	AAB, L.L.C.	CHECKED:
		SHEET 1 OF 1

JWALLACE

(7)

Deed Book 32535 Pg 289
Filed and Recorded Jun-10-2002 04:32pm
2002-0174450
Real Estate Transfer Tax $0.00
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

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Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 15th day of May, 2002, between **J. W. Veal and Ann W. Veal** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of Three Thousand Four Hundred and Seventy Five dollars ($3475) cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 698 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A permanent easement 15 feet in width adjacent to the East side of Freemanville Road. Said easement contains an area of 1,687.3 Square Feet as shown on the attached plat, said plat being attached to and make a part of this document by reference.

See Exhibit "A" for Special Stipulations

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered
this 15th day of May
2002, in the presence of

Witness

Notary Public Cherokee County, Georgia
My Commission Expires January 6, 2003

By: _____ (LS)
Print Name: J. W. VEAL

By: _____ (LS)
Print Name: ANN W. VEAL

Title: Property Owners

EXHIBIT A
SPECIAL STIPULATIONS

1. Before construction starts and before September 1, 2002, the property owner, for the amount of $ 1,875.00, paid to owner by Fulton County, will relocate the existing fence within the easement area to an area outside the easement area. (included in $3,475.00)

2. Any expense related to relocation and or replacement of the fence after construction of the water line has been paid for by Fulton County and is included in the payment agreed to in stipulation 1.

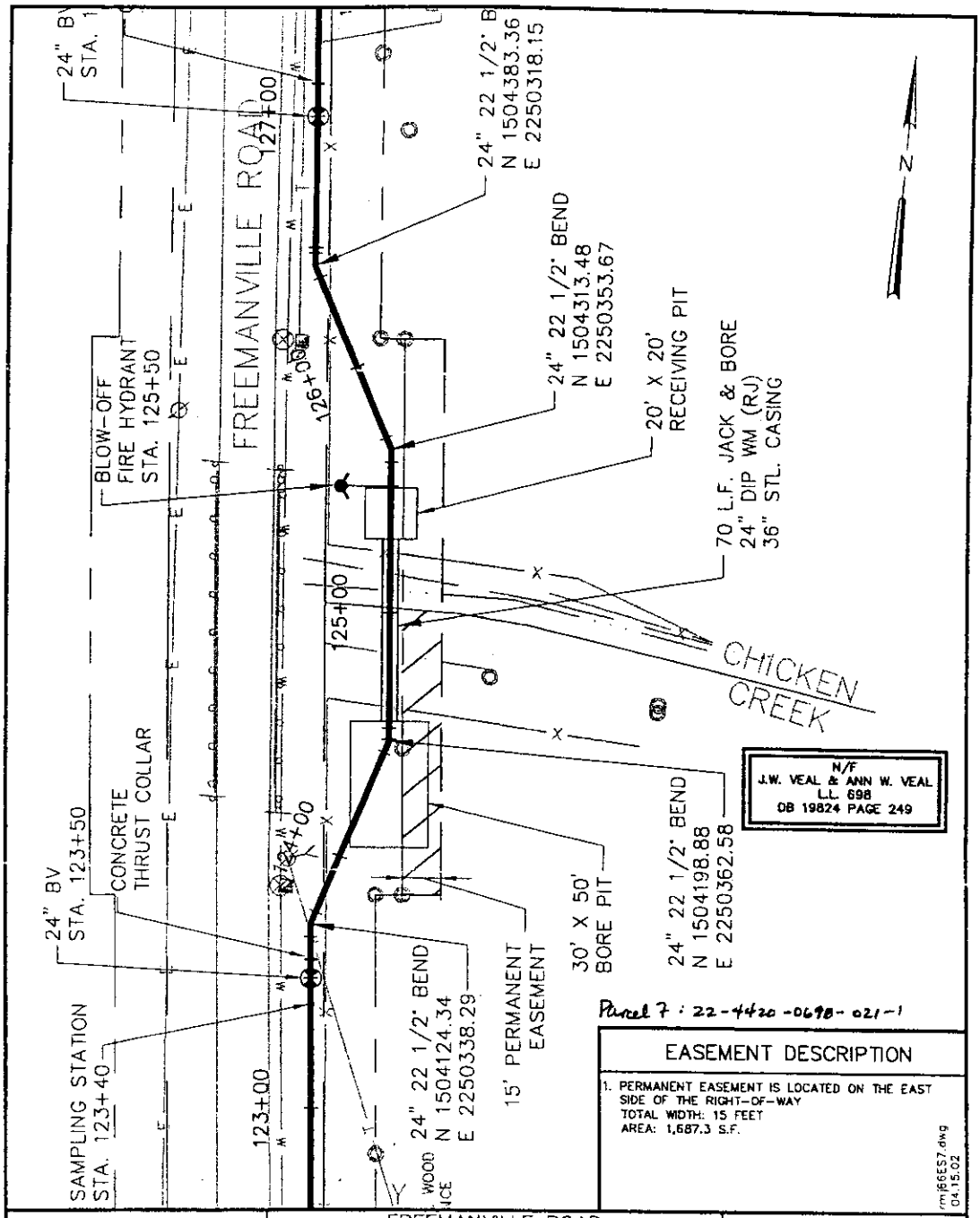
3. The county or its construction contractor will reseed the area of construction with same or similar grass as currently in place before construction.

4. Fulton County agrees to replace with like materials any shrubs, fencing, or trees that may be removed or destroyed that existed prior to commencement of any construction and/or future maintenance within or around the easement area.

5. Fulton County and its contractors agree to correct any erosion and drainage caused by the construction.

Owner _____

Owner _____



Parcel 7 : 22-4420-0698-021-1

EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 15 FEET
AREA: 1,687.3 S.F.

rmj66ES7.dwg
04.15.02

Jordan Jones & Goulding	FREEMANVILLE ROAD WATER MAIN BOC, FULTON COUNTY, GEORGIA CROSSING PROPERTY OF J.W. VEAL & ANN W. VEAL	DATE : OCTOBER, 2001 SCALE : 1" = 50' JOB NO.: 7080-066 CHECKED: SHEET 1 OF 1

JWALLACE

Deed Book 32421 Pg 426
Filed and Recorded May-20-2002 02:30pm
2002-0154377
Real Estate Transfer Tax $0.00
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

(8)

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]
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Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 15th day of May, 2002, between **Thomas W. Phillips** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of One Thousand and no/100 dollars ($1000.00) cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 671 and 698 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A permanent easement 15 feet in width adjacent to the East side of Freemanville Road. Said easement contains an area of 1,628.4 Square Feet as shown on the attached plat, said plat being attached to and make a part of this document by reference.

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered

this 15th day of May,

2002, in the presence of

Witness

Notary Public

By: _____ (LS)

Print Name: THOMAS W. PHILLIPS

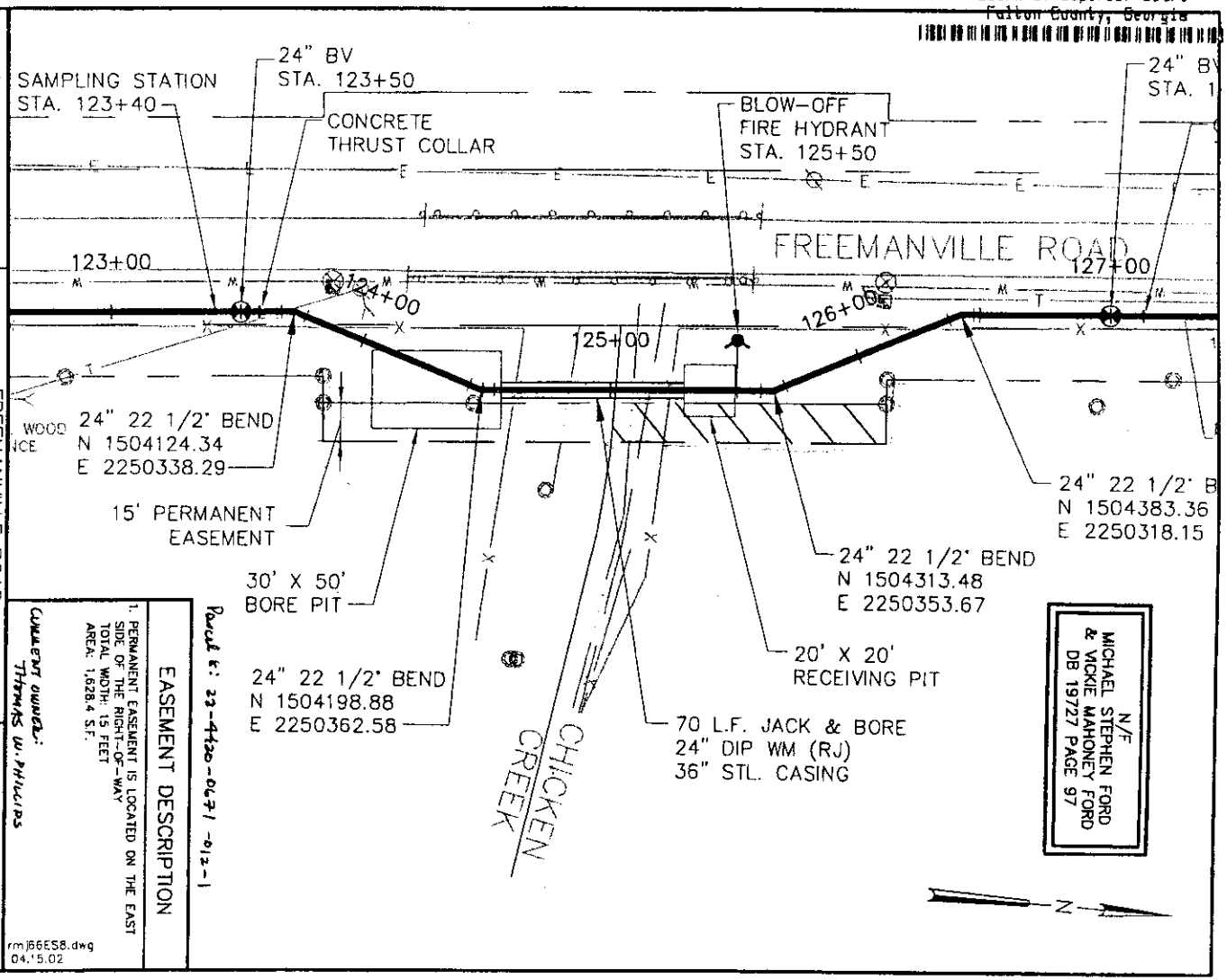
Title: Property Owner

Deed Book 32421 Pg 427
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

JWALLACE

Jordan Jones & Goulding

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
MICHAEL STEPHEN FORD
& VICKIE MAHONEY FORD



Parcel #: 23-4120-0471-012-1

EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 15 FEET
AREA: 1,628.4 S.F.

CURRENT OWNER:
THOMAS W. PHILLIPS

rmj66ES8.dwg
04.15.02

DATE : OCTOBER, 2001
SCALE : 1" = 50'
JOB NO.: 7080-066
CHECKED:
SHEET 1 OF 1

Deed Book 32535 Pg 287
Filed and Recorded Jun-10-2002 04:32pm
2002-0174449
Real Estate Transfer Tax $0.00
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

(9)

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]
THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION

Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 16th day of May, 2002, between **John F. Coyne, III** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of One Thousand One Hundred and No/100 dollars ($1,100.00) cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 626 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A permanent easement 20 feet in width adjacent to the East side of Freemanville Road. Said easement contains an area of 937.5 Square Feet and a one year temporary construction easement, beginning at the time of construction, containing 394.8 Square Feet, said easements being shown on the attached plat, said plat being attached to and make a part of this document by reference.

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered

this 16th day of May,

2002, in the presence of

Silvia R. Wilson
Witness

By: _____ (LS)

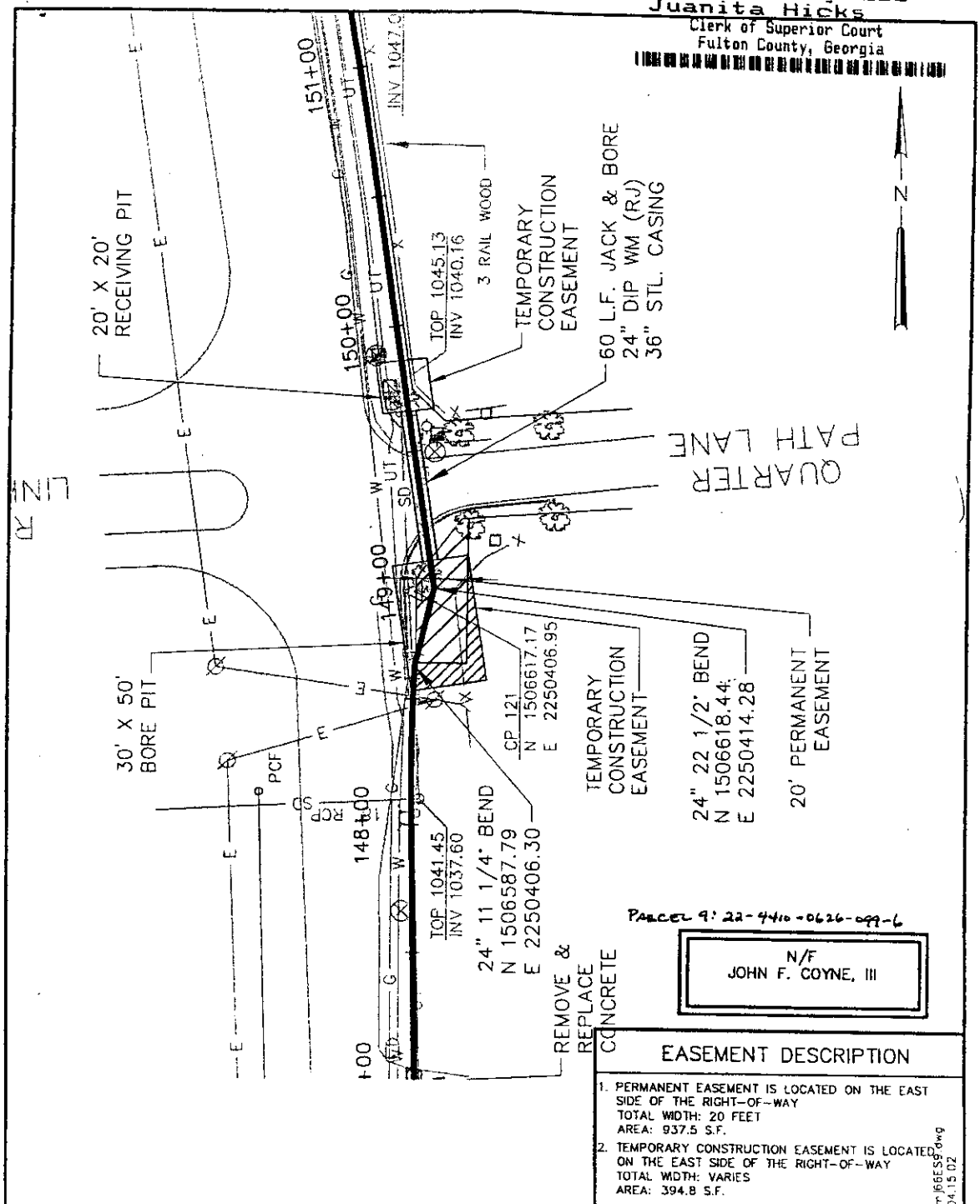
Print Name: JOHN F. COYNE, III

Title: Property Owner

Notary Public

SHARON L. BARE
Notary Public, Gwinnett County, Georgia
My Commission Expires Feb. 9, 2003

Deed Book 32535 Pg 288
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia



PARCEL #: 22-4410-0626-099-6

N/F
JOHN F. COYNE, III

EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: 20 FEET
   AREA: 937.5 S.F.
2. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: VARIES
   AREA: 394.8 S.F.

rm/66ESP.dwg
04.15.02

Jordan Jones & Goulding

JWALLACE

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
JOHN F. COYNE, III

DATE : OCTOBER, 2001
SCALE : 1" = 50'
JOB NO.: 7080-066
CHECKED:
SHEET 1 OF 1

11A

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]

*****THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION*****

Return Recorded Document to:
Fulton County Land Division
141 Pryor Street, S.W. – Suite 8021
Atlanta, Georgia 30303

Project Name : Freemanville Water Main Project (2007)
Tax Parcel Identification No.: 22-4400-0553-098-7
Project Parcel No.: 11A

For Fulton County Use Only

Approval Date: _____
Initials: _____

TEMPORARY CONSTRUCTION EASEMENT

STATE OF GEORGIA,
COUNTY OF FULTON

This indenture entered into this 14 day of May, 20 07, between **PERRY A. DEUTSCH and CAROL J. DEUTSCH,** as Joint Tenants with Rights of Survivorship, of said state and county, party of the first part (hereinafter referred to as Grantor) and **FULTON COUNTY**, a Political Subdivision of the State of Georgia, party of the second part (hereinafter referred to as Grantee).

WITNESSETH, that for and in consideration of $1.00 in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefits which will accrue to the undersigned from the construction and upgrade of a water line adjacent to the subject property, and in consideration of the benefits which will accrue to the subject property from the construction and upgrade of a water line adjacent to the subject property, said Grantor(s) has (have) granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to **FULTON COUNTY** and to successors and assigns the right, title, and privilege of easements through and upon subject property located in Land Lot (s) **553 and 554**, **2nd** Section of the **2nd** District, Fulton County, Georgia, and more particularly described as follows: To wit:

Freemanville Water Main Project

[See Exhibit "A" attached hereto and made a part hereof]

Special Provisions

1. Grantee agrees to pay Grantor $160.00 as full payment for temporary construction easement as described in Exhibit "A".

2. Grantor acknowledges that landscaping located within the easement described in Exhibit "A" is situated within a landscape easement controlled by the Fieldstone Farm Homeowners Association (the Association). As a result, any compensation due for landscaping damaged or disturbed as a result of construction shall be paid by Grantee to the Association.

3. The Grantee shall also seed or sod the easement area to match the areas surrounding the easement and provide such measures as may be necessary to prevent soil erosion;

4. Grantor does hereby grant to Fulton County, its nominees and assigns, an immediate right of entry;

5. The temporary easement will expire eighteen (18) months from the date that Grantee's contractor first enters Grantor's property for the purposes of constructing said project.

I (We) hereby warrants (warrant) that I (we) have the right to sell and convey said temporary construction easement and right of access and bind myself (ourselves), my (our) heirs, executors, and administrators, forever to warrant and defend the right and title to the above described temporary construction easement unto the said FULTON COUNTY, its successors and assigns against the claims of all persons whomever by virtue of these presents.

Said Grantor(s) hereby waives (waive) for him/herself (their selves), him/her (their) heirs, and assigns all rights to any further compensation or claim to damages on account of the construction, access, or upgrade of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her (their) hand(s) and seal(s) on the day and year first above written.

Signed, sealed and delivered this 4th
day of May, 20 07
in the presence of:

Witness

By: (L.S.)
PERRY A. DEUTSCH

Notary Public

Print Name (L.S.)
P. A. DEUTSCH
C. J. DEUTSCH

[NOTARIAL SEAL]

MARY JANE HEMING
COMMISSION EXPIRES
JULY 11 2010
FULTON COUNTY, GEORGIA
NOTARY PUBLIC

Signed, sealed and delivered this 4th
day of May, 20 07
in the presence of:

Witness

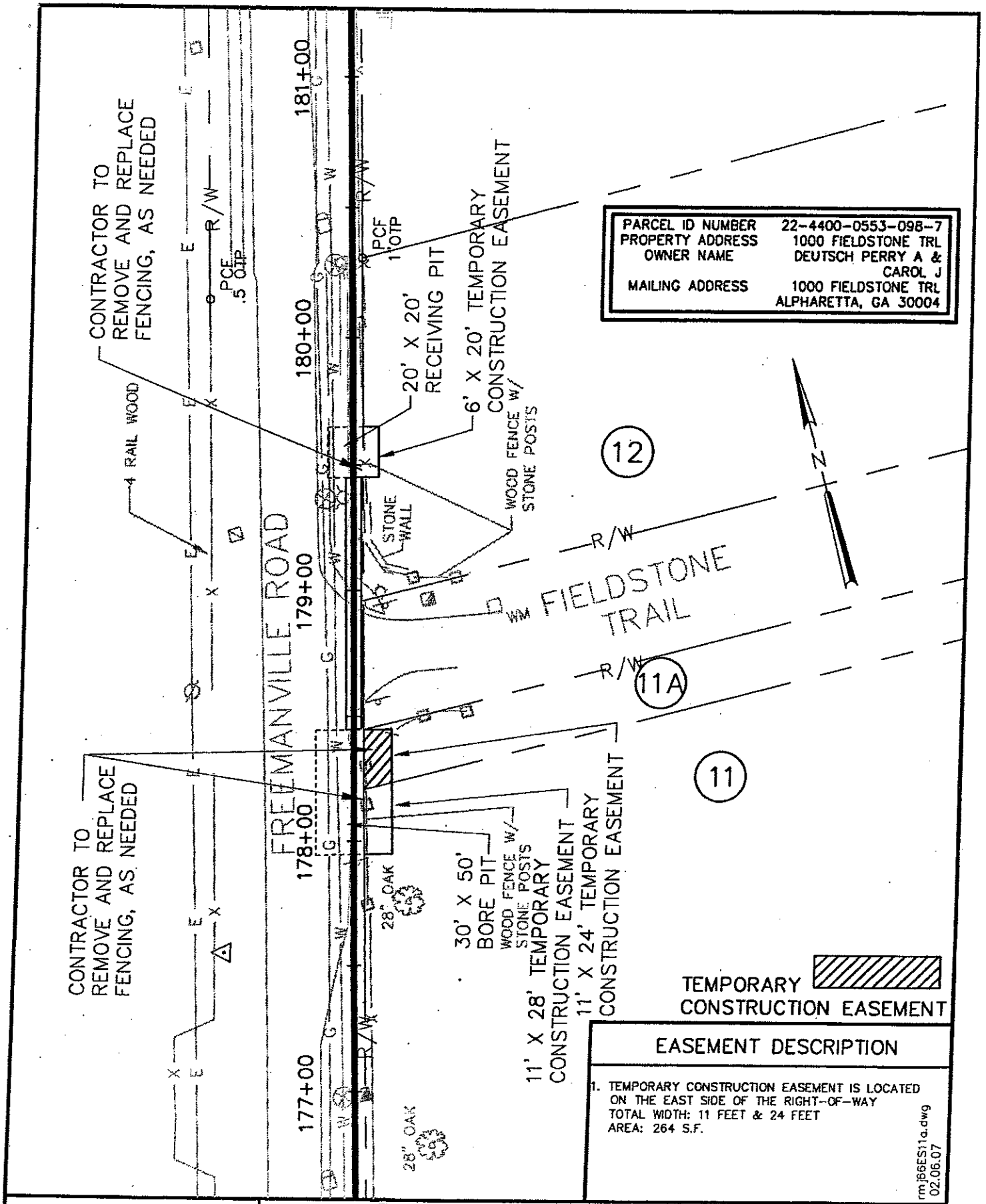
By: (L.S.)

Notary Public

Print Name: C. J. DEUTSCH (L.S.)

[NOTARIAL SEAL]

MARY JANE HEMING
MY COMMISSION EXPIRES
JULY
11
2010
FULTON COUNTY, GEORGIA
NOTARY PUBLIC



PARCEL ID NUMBER	22-4400-0553-098-7
PROPERTY ADDRESS	1000 FIELDSTONE TRL
OWNER NAME	DEUTSCH PERRY A & CAROL J
MAILING ADDRESS	1000 FIELDSTONE TRL ALPHARETTA, GA 30004

EASEMENT DESCRIPTION

1. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 11 FEET & 24 FEET
AREA: 264 S.F.

rmj86ES11a.dwg
02.06.07

JORDAN JONES & GOULDING

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
PERRY A. & CAROL J. DEUTSCH-PARCEL 11A

DATE : DECEMBER 2006
SCALE : 1"=50'
JOB NO.: 02016029
CHECKED:
SHEET 1 OF 1

CMORRIS

(15)

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]

THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION

Return Recorded Document to:
Water Main
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 2nd day of July, 2002, between **Jacobs Enterprises, Inc.** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of Five Hundred and No/100 dollars ($500.00) cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 481 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit: ABOVE $500.00 WILL BE PAID TO JACOBS ENTERPRISES, INC. WITHIN 60 DAYS OF THE ACCEPTANCE OF THIS AGREEMENT.

A one year temporary construction easement, beginning at the time of construction. Said easement is 13 feet by 50 feet (650 Square Feet) as shown on the attached plat, said plat being attached to and make a part of this document by reference.

Fulton County agrees to have the above easement staked by a Registered Georgia Land Surveyor and will not disturb any of the attached platted proeprty outside this easement. FURTHERMORE WHEN WORK IS COMPLETE FULTON COUNTY WILL PUT EASEMENT AREA DISTURBED BACK IN THE SAME CONDITION BEFORE IT WAS DISTURBED.

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement. If any modification of the above said waterline is made, Fulton County will notify Jacobs Enterprises, Inc.

I hereby warrant that I have the right to convey said water line easement and bind Jacobs Enterprises, Inc., to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered
this 2nd day of July
2002, in the presence of:

(LS)
Witness

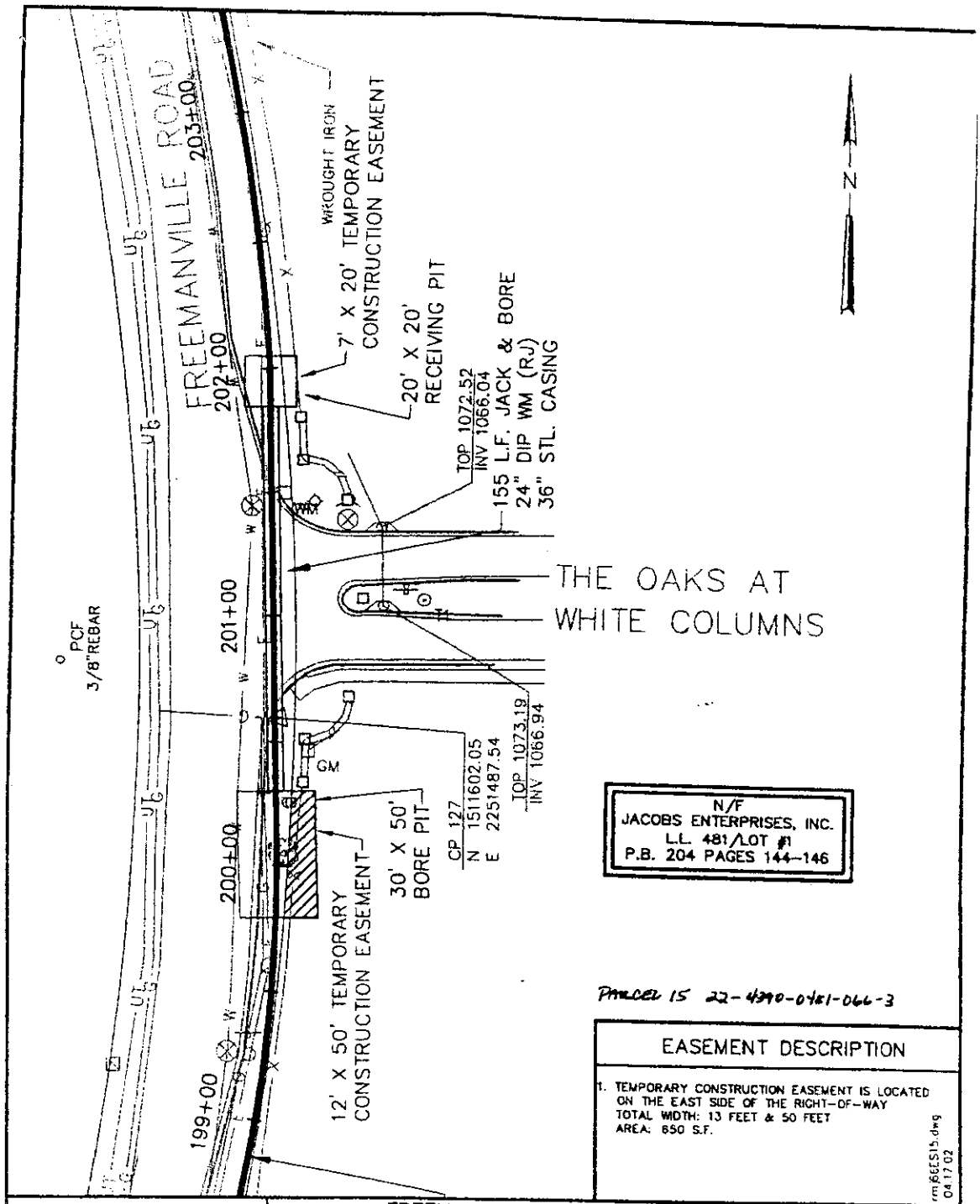
Notary Public

JACOBS ENTERPRISES, INC

By:

Print Name: ROBERT C. JACOBS

Title: VICE-PRESIDENT



PARCEL 15 22-4390-0481-066-3

EASEMENT DESCRIPTION

1. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 13 FEET & 50 FEET
AREA: 650 S.F.

rm66ES15.dwg
041702

Jordan Jones & Goulding

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
JACOBS ENTERPRISES, INC.

DATE : OCTOBER, 2001
SCALE : 1" = 50'
JOB NO.: 7080-066
CHECKED:
SHEET 1 OF 1

31HDM

Deed Book 32582 Pg 267
Filed and Recorded Jun-18-2002 02:16pm
2002-0182793
Real Estate Transfer Tax $0.00
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

(10)

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]
THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION

Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 29 day of May, 2002, between **Cynthia W. Chandlee** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of Six hundred dollars ($600.00) cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 383 and 410 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A one year temporary construction easement. Said temporary easement contains an area of 182.8 Square Feet and a permanent easement adjacent to the East side of Freemanville Road, said permanent easement contains an area of 119.2 Square Feet as shown on the attached plat, said plat being attached to and make a part of this document by reference.

* Fulton County shall replant all existing shrubbery, re-set all existing fencing as in

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered

this 29 day of May, 02

2002, in the presence of

Witness

Notary Public

DALE J. JACKSON
MY COMMISSION EXPIRES
MAY 7 2004
FULTON COUNTY, GEORGIA
NOTARY PUBLIC

By: (LS)

Print Name: CYNTHIA W. CHANDLEE

Title: Property Owner

JWALLACE

Deed Book 32582 Pg 268
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

PARCEL 11
CURRENT OWNER: 22-4380-0440-043-0
CH ARNOLD

Jordan Jones & Goulding

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
JAMES W. & KAREN D. DIXON

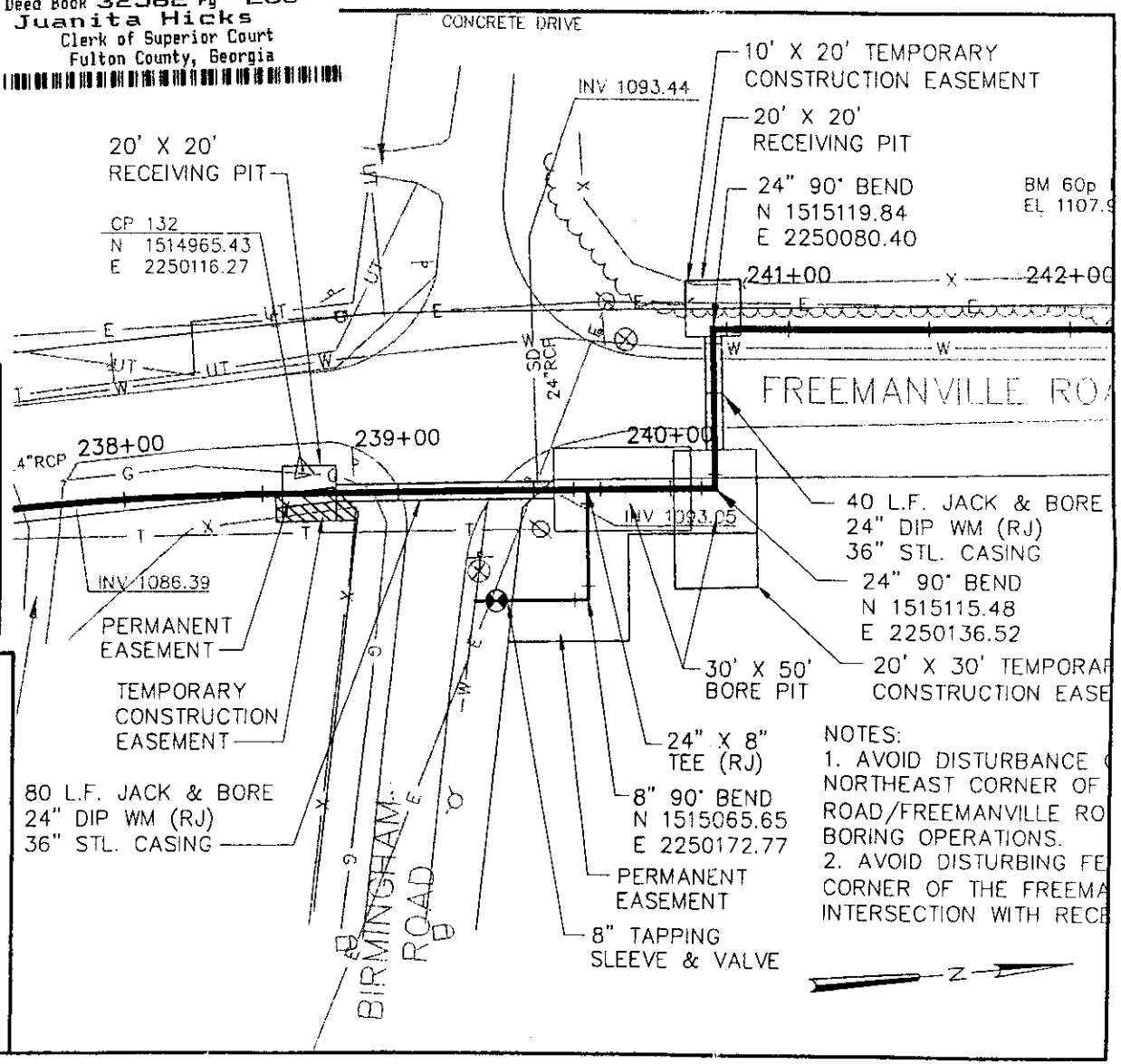
DATE : OCTOBER, 2001
SCALE : 1" = 50'
JOB NO.: 7080-066
CHECKED:
SHEET 1 OF 1

N/F
JAMES W. &
KAREN D. DIXON

EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: VARIES
AREA: 119.2 S.F.
2. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: VARIES
AREA: 182.8 S.F.

rmj66FS16.dwg
04.15.02



(17)

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]
THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION

Return Recorded Document to:
Water Main
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 17th day of July, 2002, between **Alan L. Newman and Linda G. Newman** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of Two Thousand Five Hundred and No/100 dollars ($2,500.00) cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 382 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A one year temporary construction easement, beginning at the time of construction. Said temporary easement contains an area of 440 Square Feet and a permanent easement adjacent to the East side of Freemanville Road and the North side of Birmingham Road, said permanent easement contains an area of 2,350 Square Feet as shown on the attached plat, said plat being attached to and make a part of this document by reference.

Special Stipulation: Fulton County and/or its contractor will remove at the expense of Fulton County the two Oak Trees (shown as "40 inch Oaks" on the attached exhibit) should said trees die within one year of the construction activity and determined to be caused by the construction activity. Should removal become necessary, Fulton County and/or its contractor has the right to enter upon said land as required to remove either or both trees, after notification to property owners.

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered

this 17th day of July

2002, in the presence of

Shelli N. Haywood
(LS)
Witness

Jerry L. McMillan
(LS)
Notary Public

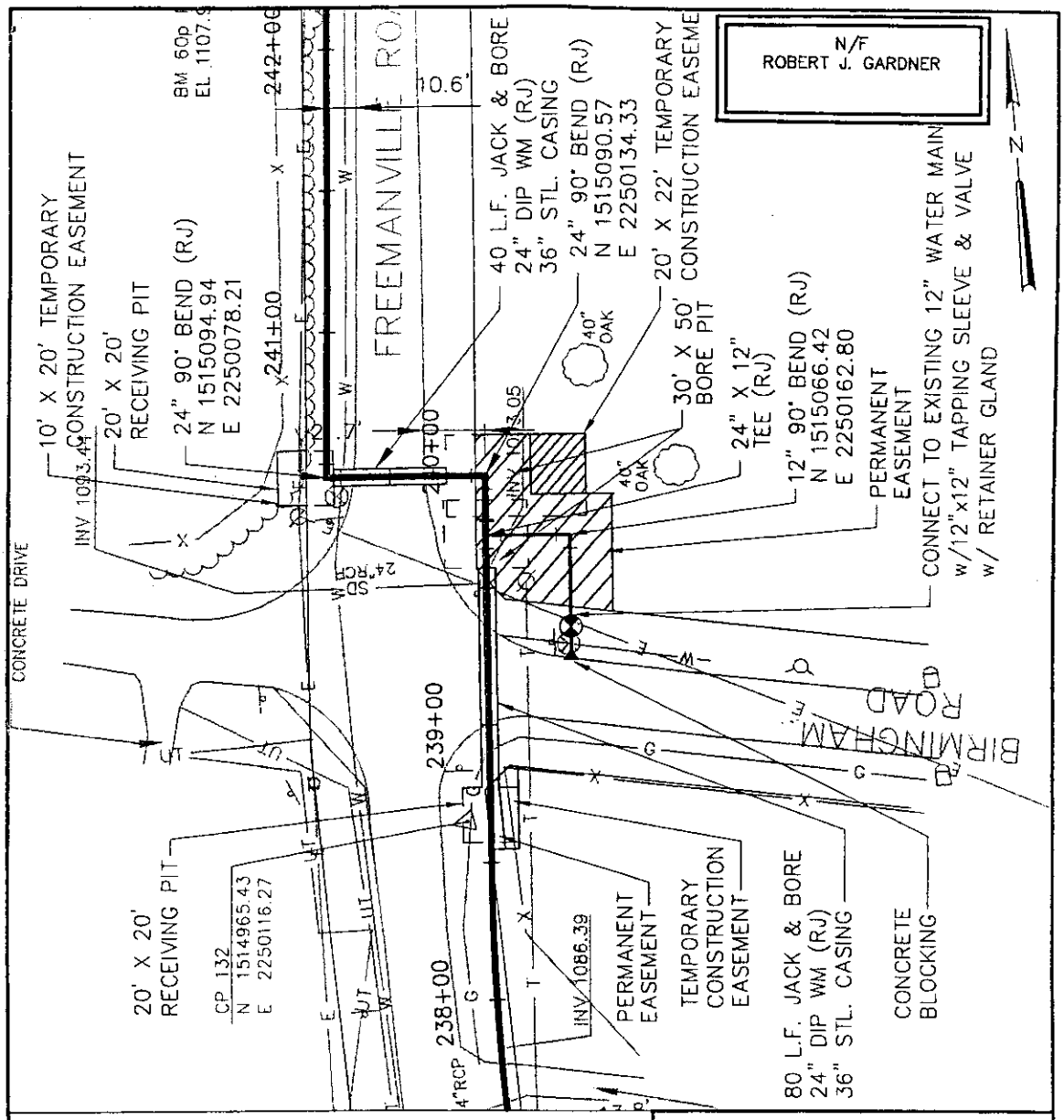
By: Alan L. Newman

Print Name: Alan L. Newman

By: Linda Newman

Print Name: Linda G. Newman

Title: Property Owners



NOTE: THE CONTRACTOR SHALL NOT DISTURB THE LARGE SPECIMEN TREES ON THE NORTHEAST CORNER OF THE FREEMANVILLE ROAD & BIRMINGHAM ROAD INTERSECTION DURING CONSTRUCTION.

PARCEL ID#: 22-1220-0339-035-8

EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: VARIES
   AREA: 2,350 S.F.
2. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: 20 FEET
   AREA: 440 S.F.

rm/66ES17.dwg
05.10.02

Jordan Jones & Goulding

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
ROBERT J. GARDNER

DATE :	OCTOBER, 2001
SCALE :	1" = 50'
JOB NO.:	7080-066
CHECKED:	
SHEET	1 OF 1

(18)

Deed Book 33054 Pg 667
Filed and Recorded Sep-06-2002 03:01pm
2002-0264632
Real Estate Transfer Tax $0.00
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]

THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION

Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

STATE OF Georgia
Fulton COUNTY

This indenture entered into this 15th day of August, 2002, between **John P. Cole** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of $1,500.00 dollars cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 382 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A one-year temporary construction easement, beginning at the time of construction, 10 by 20 feet adjacent to the West side of Freemanville Road. Said temporary easement contains an area of 204.5 Square Feet as shown on the attached plat, said plat being attached to and make a part of this document by reference.

SPECIAL STIPULATIONS

1. Fulton County or its contractor will remove as many as four Leyland Cypress trees that would be impacted by the construction of said project. Fulton County or its contractor agrees to replace said trees with new Leyland Cypress trees, measuring approximately twelve (12) to fourteen (14) feet in height. Fulton County agrees to guarantee these new trees for a period of six months from the date of installation. Guarantee is contingent upon proper maintenance and watering practices by the Grantor. Guarantee shall not cover damage or destruction to said trees as result of fire or uncontrollable acts of nature such as lightning strikes or tornadoes. Furthermore, guarantee shall not cover intentional or unintentional damage or destruction to said trees by individuals not employed by or serving as a contractor of Fulton County.

2. Fulton County or its contractor agrees to install the new Leyland Cypress trees no later than the end of the planting season immediately following the completion of said project. Grantor conveys right to enter said property to Fulton County or its contractor for the purposes of installing said trees.

3. Fulton County or its contractor agrees to replace landscaping items such as sod or pine straw that would be removed or significantly disturbed as a result of the construction of said project. Said landscaping items that would be replaced would be of similar type and quality.

4. Fulton County or its contractor would repair or replace any drip irrigation lines that are damaged as a result of the construction of said project.

5. During the course of construction, Fulton County or its contractor shall not disturb the fence on said property, which is located on the northwest corner of the intersection of Freemanville Road and Birmingham Road.

Deed Book 33054 Pg 668

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered

this 15th day of August, 2002, in the presence of

(LS)
Witness

By: (LS)

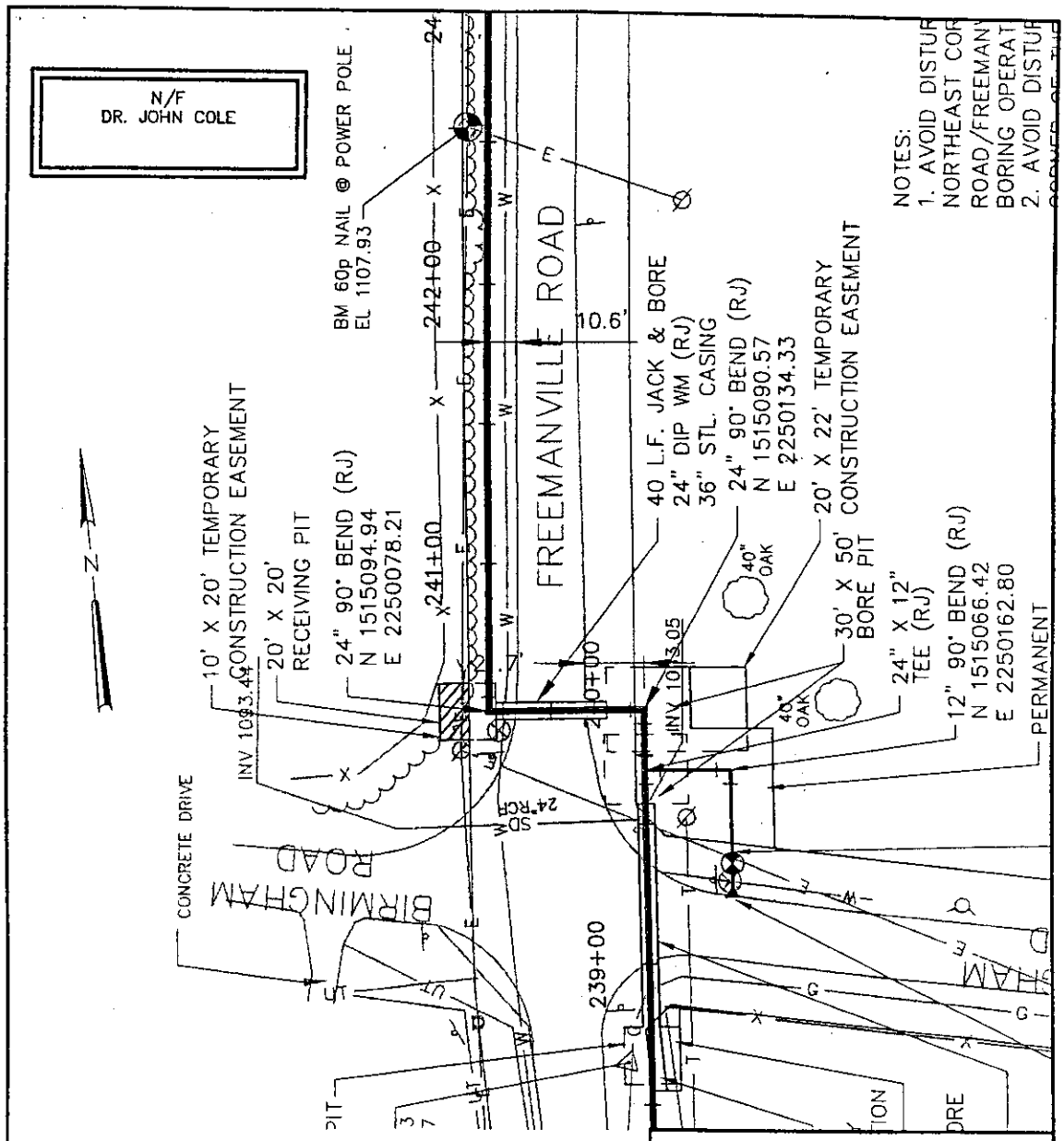
Print Name: JOHN P. COLE
Title: Property Owner

Rhonda R. Miller
Notary Public
My Commission Expires 2/13/06

RHONDA R. MILLER
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires February 13, 2006

N.P. SEAL

Deed Book 33054 Pg 669
Juanita Hicks
Clerk of Superior Court
Fulton County, Georgia



NOTES:
1. AVOID DISTUR
NORTHEAST COR
ROAD/FREEMAN
BORING OPERAT
2. AVOID DISTUR

NOTE: THE CONTRACTOR SHALL NOT DISTURB THE FENCE ON THE NORTHWEST CORNER OF THE FREEMANVILLE ROAD & BIRMINGHAM ROAD INTERSECTION DURING CONSTRUCTION.

PARCEL ID: 22-4220-0339-035-8

EASEMENT DESCRIPTION

1. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE WEST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 10 FEET
AREA: 204.5 S.F.

rmj56ES18.dwg
05.10.02

Jordan Jones & Goulding	FREEMANVILLE ROAD WATER MAIN BOC, FULTON COUNTY, GEORGIA CROSSING PROPERTY OF DR. JOHN COLE	DATE : OCTOBER, 2001 SCALE : 1" = 50' JOB NO.: 7080-066 CHECKED: SHEET 1 OF 1

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]

THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION

Return Recorded Document to:
The Fulton County Land Division
141 Pryor Street, Suite 8021
Atlanta, GA 30303

PROJECT: Freemanville Road Water Main

WATER MAIN EASEMENT

GEORGIA,
FULTON COUNTY

This indenture entered into this 20 day of June, 2002, between **Fieldstone Farm Homeowners Association** of said state and county, party of the first part, and **Fulton County**, a Political Subdivision of the State of Georgia, party of the second part.

WITNESSETH, that for and in consideration of Two Hundred and No/100 dollars ($200.00) cash in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefit which will accrue to the undersigned from the construction of a water line through subject property, said party of the first part has granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to the party of the second part and to successors and assigns the right, title, and privilege of easements through subject property located in land lot 554 of the 2nd District, 2nd Section of Fulton County, Georgia, and more particularly described as follows: To wit:

A one year temporary construction easement, beginning at the time of construction, 11 feet by 24 feet (264 Square Feet) as shown on the attached plat (parcel 11A) and a one year temporary construction easement, beginning at the time of construction, 6 feet by 20 feet (120 Square Feet) as shown on the attached plat (parcel 12), said plats being attached to and make a part of this document by reference.

SPECIAL STIPULATIONS: The County of Fulton or it's construction contractor shall replace all irrigation lines, sprinkler heads, wiring, outdoor lighting, landscaping including trees, shrubs, sod, flowers adn pine straw with the same or better quality materials currently in place. Futhermore, any landscaping replaced by Fulton County within the temporary easements will be of a similar type as currently installed at Fieldstone Farms. Additionally, the County or its contractor will replace or repir any damage done to the fencing, stone fencing, stone columns or sign wall. All repairs and replacements will be completed in a timely manner after the completion of the water main construction where this easement has been granted.

This right and easement herein granted being to occupy such portion of my property as would be sufficient for the construction and maintenance and upgrade of said water line through same according to the location and size of said water line as shown on the map and profile now on file in the office of the Public Works Department of Fulton County, and which size and location may be modified from time to time including in the future after the date of this document to accommodate said water line within the aforesaid boundaries of the above-described easement.

I hereby warrant that I have the right to sell and convey said water line easement and bind myself, my heirs, executors, and administrators, forever to warrant and defend the right and title to the above described water line easement unto the said party of the second part, its heirs and assigns against the claims of all persons whomever by virtue of these presents.

Said party of the first part hereby waives for him/herself, him/her heirs, and assigns all rights to any further compensation or claim to damages on account of the construction or maintenance of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her hand and seal on the day and year first above written.

Signed, sealed and delivered
this 20th day of June
2002, in the presence of

Witness

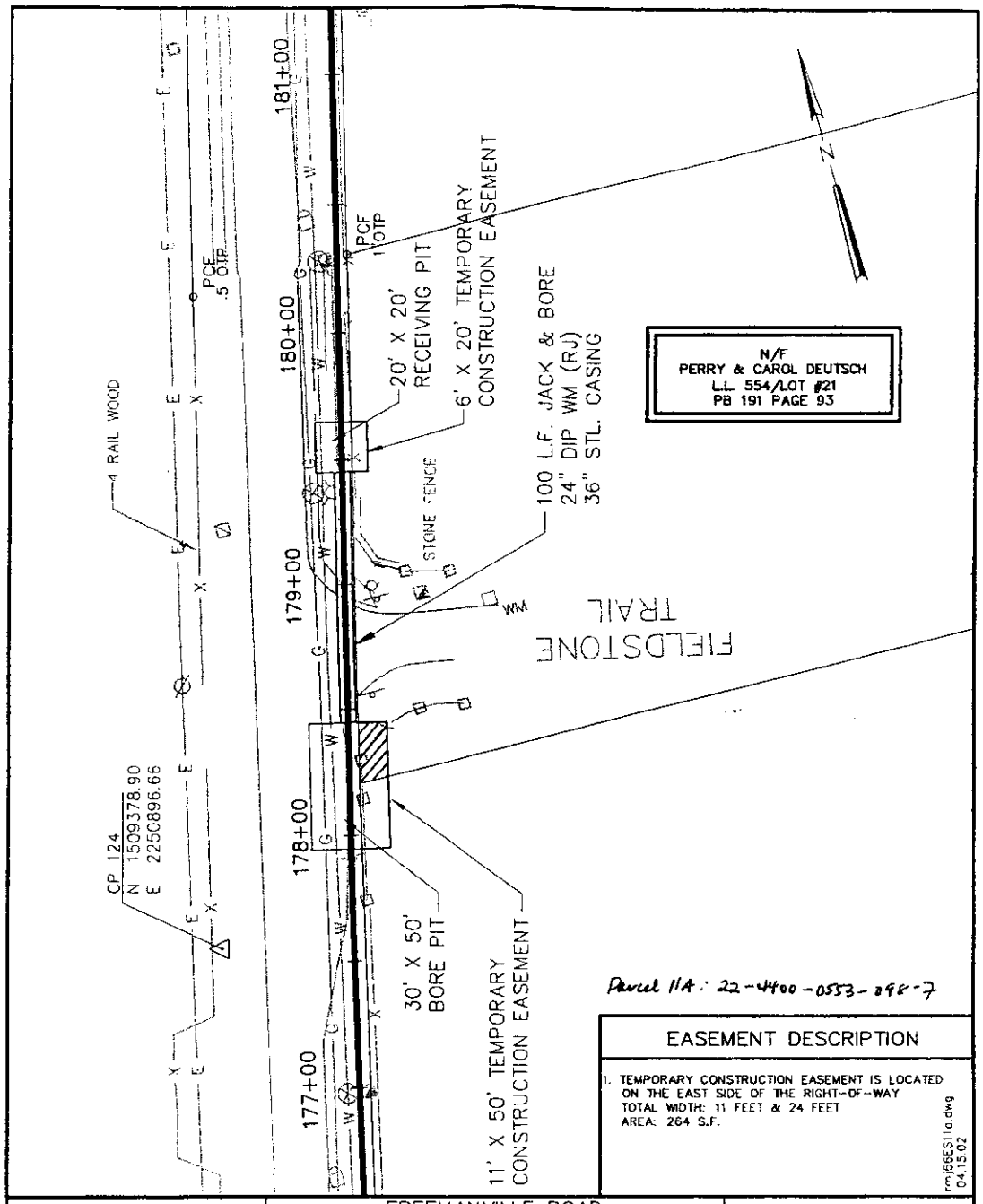
Notary Public
Notary Public, Cobb County, Georgia
My Commission Expires February 6, 2004

FIELDSTONE FARM HOMEOWNERS ASSOCIATION

By Andrew Furman (LS)

Print Name: ANDREW FURMAN.

Title: President, Fieldstone Farm HOA



Parcel 11A: 22-4400-0553-098-7

EASEMENT DESCRIPTION

1. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 11 FEET & 24 FEET
AREA: 264 S.F.

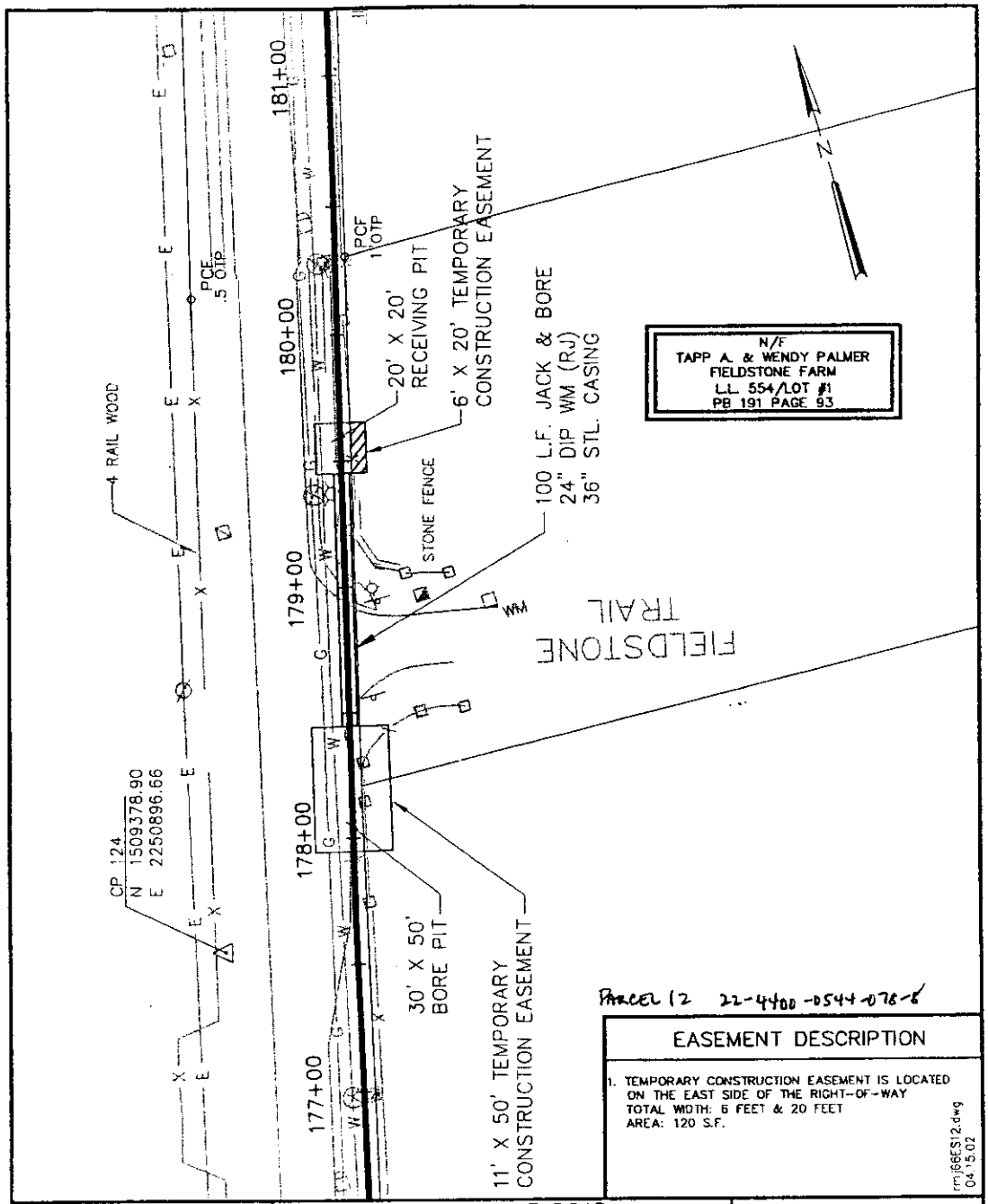
rm/B6ES11a.dwg
04.15.02

Jordan Jones & Goulding

JWALLACE

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
PERRY & CAROL DEUTSCH

DATE : OCTOBER, 2001
SCALE : 1" = 50'
JOB NO.: 7080-066
CHECKED:
SHEET 1 OF 1



PARCEL 12 22-4400-0544-078-6

EASEMENT DESCRIPTION

1. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
TOTAL WIDTH: 6 FEET & 20 FEET
AREA: 120 S.F.

rm)66ES12.dwg
04.15.02

Jordan Jones & Goulding

JWALLACE

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
TAPP A. & WENDY PALMER

DATE : OCTOBER, 2001
SCALE : 1" = 50'
JOB NO.: 7080-066
CHECKED:
SHEET 1 OF 1

Note:
Permanent Easement
Shown on Plat
acquired in 2002.

[BLANK SPACE ABOVE THIS LINE IS FOR THE SOLE USE OF THE CLERK OF SUPERIOR COURT]

*****THIS DOCUMENT MAY BE RECORDED ONLY BY PERSONNEL OF THE FULTON COUNTY LAND DIVISION*****

Return Recorded Document to:
Fulton County Land Division
141 Pryor Street, S.W. – Suite 8021
Atlanta, Georgia 30303

Project Name : Freemanville Water Main Project (2007)
Tax Parcel Identification No.: 22-4380-0410-047-1
Project Parcel No.: 16

For Fulton County Use Only
Approval Date: 5-15-07
Initials: MFH

TEMPORARY CONSTRUCTION EASEMENT

STATE OF GEORGIA,
COUNTY OF FULTON

This indenture entered into this 24 day of April, 2007, between **CYNTHIA W. CHANDLEE**, of said state and county, party of the first part (hereinafter referred to as Grantor) and **FULTON COUNTY**, a Political Subdivision of the State of Georgia, party of the second part (hereinafter referred to as Grantee).

WITNESSETH, that for and in consideration of $1.00 in hand paid, at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged and in consideration of the benefits which will accrue to the undersigned from the construction and upgrade of a water line adjacent to the subject property, and in consideration of the benefits which will accrue to the subject property from the construction and upgrade of a water line adjacent to the subject property, said Grantor(s) has (have) granted, bargained, sold and conveyed and by these presents does grant, bargain, sell and convey to **FULTON COUNTY** and to successors and assigns the right, title, and privilege of easements through and upon subject property located in Land Lot (s) **383 and 410**, **2nd** Section of the **2nd** District, Fulton County, Georgia, and more particularly described as follows: To wit:

Freemanville Water Main Project

[See Exhibit "A" attached hereto and made a part hereof]

Special Provisions

1. Grantee agrees to pay Grantor $3,045.00 as full payment for temporary construction easement as described in Exhibit "A". Said compensation includes an allocation for any existing landscaping located within the permanent and temporary construction easements shown on Exhibit "A" that may be damaged or disturbed as a result of construction of the Freemanville Water Main Project;

2. The Grantee shall also seed or sod the easement area to match the areas surrounding the easement and provide such measures as may be necessary to prevent soil erosion;

3. Grantor does hereby grant to Fulton County, its nominees and assigns, an immediate right of entry;

4. The temporary easement will expire eighteen (18) months from the date that Grantee's contractor first enters Grantor's property for the purposes of constructing said project.

I (We) hereby warrants (warrant) that I (we) have the right to sell and convey said temporary construction easement and right of access and bind myself (ourselves), my (our) heirs, executors, and administrators, forever to warrant and defend the right and title to the above described temporary construction easement unto the said FULTON COUNTY, its successors and assigns against the claims of all persons whomever by virtue of these presents.

Said Grantor(s) hereby waives (waive) for him/herself (their selves), him/her (their) heirs, and assigns all rights to any further compensation or claim to damages on account of the construction, access, or upgrade of said water line for the use of the property as herein agreed.

IN WITNESS HEREOF said party of the first part has hereunto affixed his/her (their) hand(s) and seal(s) on the day and year first above written.

Signed, sealed and delivered this 24th day of April, 20 07 in the presence of:

Witness

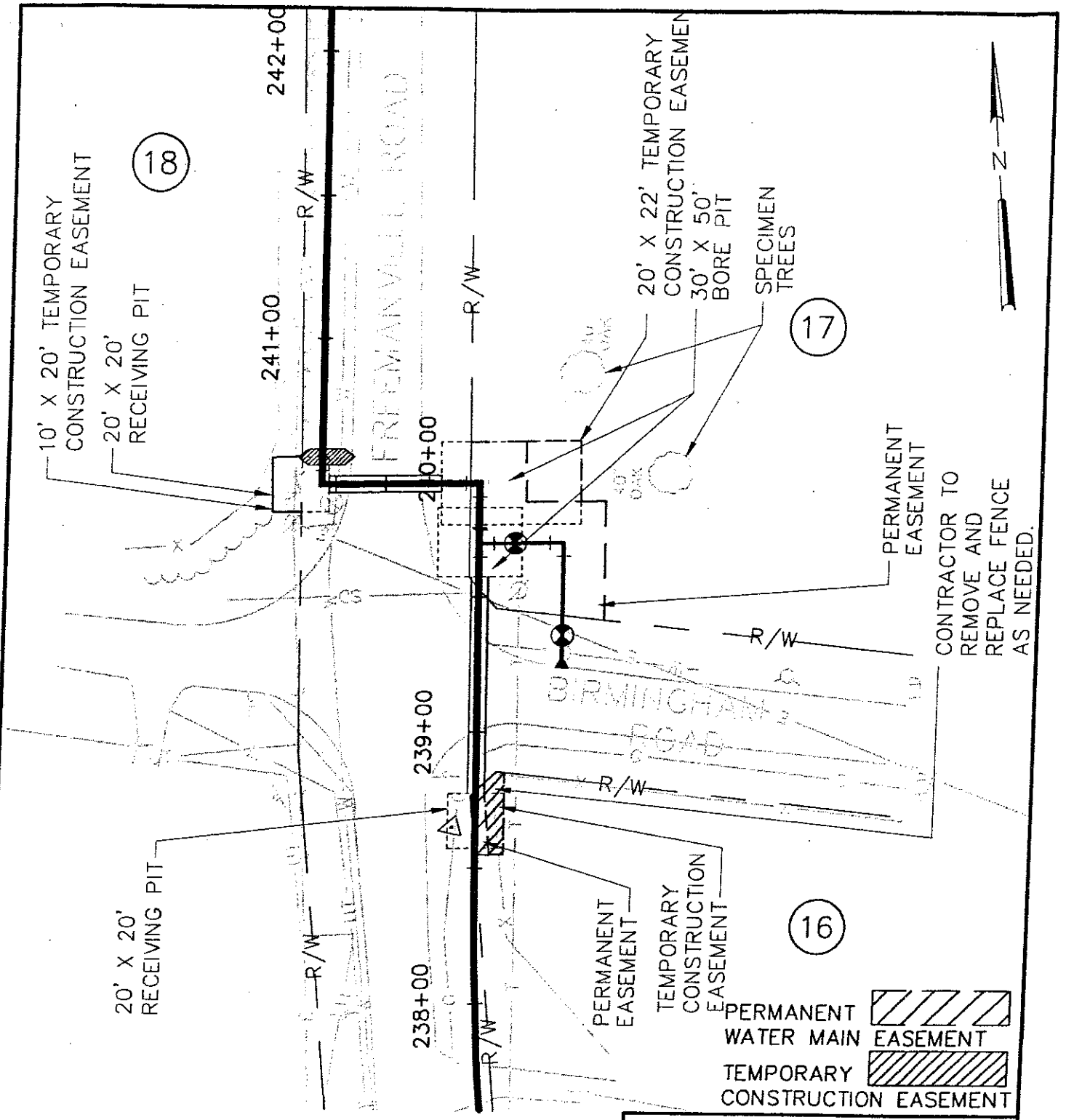
By: (L.S.)

Cynthia W. Chandler (L.S.)

Notary Public

[NOTARIAL SEAL]

MARY JANE HEMING
MY COMMISSION EXPIRES
JULY 11 2010
FULTON COUNTY, GEORGIA
NOTARY PUBLIC



PARCEL ID NUMBER	22-4380-0410-047-1
PROPERTY ADDRESS	BIRMINGHAM RD
OWNER NAME	CHANDLEE JAMES W & CYNTHIA W
MAILING ADDRESS	1425 BIRMINGHAM RD ALPHARETTA, GA 30004

EASEMENT DESCRIPTION

1. PERMANENT EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: VARIES
   AREA: 119.2 S.F.
2. TEMPORARY CONSTRUCTION EASEMENT IS LOCATED ON THE EAST SIDE OF THE RIGHT-OF-WAY
   TOTAL WIDTH: VARIES
   AREA: 182.8 S.F.

(m)06: Sib.dwg
03.29.07

JORDAN JONES & GOULDING

FREEMANVILLE ROAD
WATER MAIN
BOC, FULTON COUNTY, GEORGIA
CROSSING PROPERTY OF
JAMES W. & CYNTHIA W. CHANDLEE– PARCEL 16

DATE : DECEMBER 2006
SCALE : 1"=50'
JOB NO.: 02016029
CHECKED:
SHEET 1 OF 1

CMORRIS