THE CITY OF ROME, GEORGIA

WATER AND SEWER DIVISION

PROJECT MANUAL FOR

MT. ALTO - WATER TRANSMISSION MAIN

OWNER BID #-008-18
INSITE PROJECT NUMBER 16127.00

MARCH 2018

PREPARED BY:

InSite Engineering, LLC
5800 Feldspar Way
Hoover, Alabama 35244
Telephone: (205) 733-9696
Fax: (205) 733-9697

GEORGIA REGISTERED No. PE042331 PROFESSIONAL ENGINEER TIMOTHY RICHARD RYLEE

3/2/2018

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SECTION 001116 - INVITATION TO BID

1.1 BID INFORMATION

A. InSite Project: 16127.00 Mt. Alto - Water Transmission Main
B. Owner Bid # 008-18 Mt. Alto - Water Transmission Main
C. Owner: The City of Rome, Georgia
D. Engineer: InSite Engineering, LLC.
E. Names of Bidders:
   1. All Bidders.

1.2 ANNOUNCEMENT

A. All qualified bidders are invited to submit a Bid under sealed envelope to The City of Rome, Georgia for the installation of a new 8" ductile iron water line, 10" HDPE water line, 2" HDPE water line, valves, flushing assemblies, water meters (Owner Supplied), fire hydrants, roadway trench repair, driveway trench repair, and all other necessary appurtenances located at Mt. Alto Road, Rome, Georgia 30161. The Owner will receive Bids at the City of Rome – Purchasing Department, Attention: Johnna M. Allen, located at 601 Broad Street, Rome, Georgia, 30162 until 10:00 A.M. local standard time on the 29th day of March, 2018. Mailed Bids are to be sent to the City of Rome – Purchasing Department, Attention: Johnna M. Allen, Post Office Box 1433, Rome, Georgia, 30162. **Bids not received by 10:00 A.M. local standard time on the 29th day of March, 2018 will not be opened.**

B. The Bids will be publicly opened and read aloud at 10:00 A.M. local standard time on the 29th day of March, 2018 in the Sam King Room at City Hall, located at 601 Broad Street, Rome, Georgia, 30161.

C. Owner requires the Project to be substantially completed within **120** days after the date when the Contract Times commence to run as dated in the Notice to Proceed and completed and ready for final payment within **150** days after the date when the Contract Times commence to run as dated in the Notice to Proceed.

D. Bid Documents can be obtained only by General Contractors and Bidders at www.insiteengineering.org. Others may view the Bid Documents at the office of the Engineer or online at www.insiteengineering.org.

E. Bidders will be required to provide Bid security according to the requirements in Bid Document Instruction to Bidders.

F. Other Bidding requirements are described in Bid Document Instructions to Bidders.

G. Submit your Bid on the Bid Form provided. Bidders are required to complete all sections and requirements as stated with the Contract Documents.

H. Bids will be required to be submitted under a condition of irrevocability for a period of no less than 60 days after submission.

I. A mandatory Pre-Bid Meeting will not be held. Each bidder can schedule a time to view the site and construction area through the office of the Engineer.

J. Owner reserves the right to waive irregularities and to accept or reject any or all Bids.

END OF DOCUMENT 001116

ROME
G·E·O·R·G·I·A
Purchasing Department

M E M O R A N D U M

TO: Prospective Bidders

FROM: Johnna M. Allen, Purchasing Director

RE: Request for Bid - #008-18

DATE: February 19, 2018

Enclosed you will find the necessary information for preparing and submitting your bid for **Mt. Alto Water Transmission Main Project** for the City of Rome. The deadline for submitting your bid is **March 29, 2018 @ 10:00 A.M.**

All information for this bid is posted on the City of Rome website **www.romefloyd.com.** All questions should be submitted via e-mail to Tim Rylee at tim@insiteengineering.org. All questions and answers will be posted on the website. It is the responsibility of interested parties to visit the site regularly to insure receipt of any new information that may be provided.

If you have further questions, please do not hesitate to call my office at 706-236-4410.

_____
Johnna M. Allen
Purchasing Director

601 Broad Street • PO Box 1433 • Rome, Georgia 30162-1433
phone: 706/236-4410 • *fax:* 706/236-4549
www.romega.us

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INSTRUCTIONS FOR BIDDERS

I. Bids must be received by **March 29, 2018 @ 10:00 A.M.**

II. Bids must be delivered to:

City of Rome – Purchasing Department
Attention: Johnna M. Allen
601 Broad Street
P.O. Box 1433
Rome, Georgia 30162

III. Bids must be sealed and marked:

"008-18 "Mt. Alto Water Transmission Main Project"

IV. Bids must be complete and include:

A. Completed Bid Proposal Form
B. Executed Bidder's Declaration
C. Executed Certificate of Non-Discrimination
D. Executed Affidavit of Non-Collusion
E. Prompt Payment Affidavit
F. Request for Taxpayer I.D. Number
G. Drug-Free Workplace Certification
H. E-Verify Compliance Affidavit
I. SAVE Compliance Affidavit

All bids submitted shall be subject to acceptance or rejection and the City of Rome specifically reserves the right to accept or reject any or all bids, to waive any technicalities and formalities in the bidding.

Bidder shall submit all required forms and information simultaneously with sealed bids, which forms and information become a part of the property of the City of Rome and will not be returned to bidders unless a written request to withdraw is received prior to **March 29, 2018 @ 10:00 a.m.**

V. Payment:

When contracts are awarded, payment by the City of Rome will be the normal 30-day cycle. However, the City does make every effort to honor all discounts.

REQUIREMENTS FOR BIDDERS

These items apply to and become a part of the terms and conditions of the bidders bid. Any exceptions must be in writing.

Notice is hereby given that the City of Rome will receive sealed bids from interested parties until **March 29, 2018 at 10:00 a.m**. at its offices located at 601 Broad Street, Rome, Georgia 30162-1433.

Any bids received thereafter will not be considered.

Bids will be publicly opened and read at the City of Rome Sam King Room located at 601 Broad Street on the day and at the hour specified.

The purchaser may consider as non-responsive, any bid in which there is an alteration of, or departure from the bid form hereto attached.

The bid will be awarded to the lowest reliable bidder complying with the conditions of the invitation for bid. The bidder to whom award is made will be notified at the earliest possible date. The purchaser reserves the right to reject the bid of a bidder who has previously failed to perform properly or complete on time, contracts of a similar nature, or the bid of a bidder who, in the sole opinion and discretion of the purchaser is not in a position to perform the contract, or whose name appears on the United States Comptroller General's list of ineligible contractors.

Bids may be withdrawn by written or faxed request, provided such withdrawals are received prior to bid opening date.

NOTE: Unless stated on the bid form the bid submitted will assume all specifications will be met. Please note on the bid form all exceptions.

SECTION 002113 – ADDITIONAL INSTRUCTIONS TO BIDDERS

1.1 INTENT

A. Intent of this Bid request is to obtain an offer to perform Work to complete the installation of a new 8” ductile iron water line, 10” HDPE water line, 2” HDPE water line, valves, flushing assemblies, water meters (Owner Supplied), fire hydrants, roadway trench repair, driveway trench repair, and all other necessary appurtenances located at Mt. Alto Road, Rome, Georgia 30161, for a Stipulated Price contract, according to Contract Documents.

1.2 WORK IDENTIFIED IN CONTRACT DOCUMENTS

A. Work of this proposed Contract comprises general construction of a new 8” ductile iron water line, 10” HDPE water line, 2” HDPE water line, valves, flushing assemblies, water meters (Owner Supplied), fire hydrants, roadway trench repair, driveway trench repair, and all other necessary appurtenances.

B. Location: Mt. Alto Road, Rome, Georgia, 30161

C. Land and Access:

1. Contract Documents identify land, rights-of-way, and easements for the Work to be accessed and performed.

1.3 CONTRACT TIME

A. Description:

1. Owner requires the Project to be substantially completed within **120** calendar days after the date when the Contract Times commence to run as dated in the Notice to Proceed and completed and ready for final payment within **150** calendar days after the date when the Contract Times commence to run as dated in the Notice to Proceed.

B. Time is of Essence:

1. Owner requires Work of this Contract to be completed as soon as possible.

1.4 DEFINITIONS

A. Bidding Documents: Contract Documents supplemented with Advertisement for Bids, Instructions to Bidders, Bid Form, Bid securities, and Technical Specifications.

B. Contract Documents: As defined in EJCDC C-700 - Standard General Conditions of the Construction Contract, Article 1, including issued Addenda.

C. Bid: Executed Bid Form and required attachments submitted according to Instructions to Bidders.

D. Bid Price / Sum: Monetary sum identified by Bidder in Bid Form.

1.5 CONTRACT DOCUMENTS IDENTIFICATION

A. Contract Documents are identified as Project No. 16127.00 (Owner Bid # 008-18), as prepared by InSite Engineering, LLC located at 5800 Feldspar Way, Hoover, Alabama 35244, and as identified in Project Manual.

1.6 AVAILABILITY OF DOCUMENTS

A. Bidding Documents may be obtained as indicated in Advertisement for Bids.

B. Purpose:

1. Bidding Documents are made available only for the purpose of obtaining offers for the Project.
2. Their use does not grant a license for other purposes.

1.7 EXAMINATION OF DOCUMENTS

A. Bidding Documents may be viewed at the office of InSite Engineering, LLC or Online within the plan library at www.insiteengineering.org and www.romefloyd.com.

B. Completeness:

1. Upon receipt of Bidding Documents, verify that documents are complete.
2. Notify Engineer if documents are incomplete.

C. Immediately notify Engineer upon finding discrepancies or omissions in Bidding Documents.

1.8 INQUIRIES AND ADDENDA

A. Direct questions in writing to InSite Engineering, LLC at tim@insiteengineering.org. In turn InSite Engineering, LLC will inform Owner of any and all inquires. It is the bidders responsibility to ensure the email is received.

B. Verbal answers are not binding on any party.

C. Submit questions not less than five days before date set for receipt of Bids.

D. Include resultant costs in Bid Price/Sum.

1.9 PRODUCT SUBSTITUTIONS

A. Where Bidding Documents stipulate particular products, substitution requests will be considered by Engineer up to 10 days before receipt of Bids.

B. With each substitution request, provide sufficient information for Engineer to determine acceptability of proposed products.

C. Comply with Owners materials and standards – Deviation from this will require a request of in writing prior to the bid.

D. Approvals:

1. When a request to substitute a product is made, Engineer may approve the substitution with Owners direction.
2. Approved substitutions will be identified by Addenda.

E. Changes in the Work:

1. In submitting substitutions to specified products, Bidders shall include changes required in the Work and changes to Contract Time, Contract Sum, and Contract Price to accommodate such approved substitutions in their Bid.
2. Later claims by the Bidder for an addition to the Contract Time or Contract Price because of changes in Work necessitated by use of substitutions will not be considered.

F. With each substitution request, provide sufficient information for Engineer to determine acceptability of proposed products. Acceptability to be approved by Owner.

G. Comply with Owners materials and standards – Deviation from this will require a request of in writing prior to the bid.

H. Provide complete information on required revisions to other Work to accommodate each substitution, the value of additions to or reductions from the Bid Price, including revisions to other Work.

I. Provide products as specified unless substitutions are submitted in this manner and subsequently accepted.

J. Approval to submit substitution requests prior to submission of Bids is not required.

1.10 SITE EXAMINATION

A. Examine Project Site before submitting a Bid.

B. Contact Engineer at following address and phone number to arrange date and time to visit Project Site:

1. Address: 5800 Feldspar Way, Hoover, Alabama 35244.
2. Telephone: 205-733-9696.

1.11 PREBID MEETING

A. A mandatory Pre-Bid Meeting will not be held. Each bidder can schedule a time to view the site and construction area through the office of the Engineer.

1.12 BIDDER QUALIFICATIONS

A. To demonstrate qualification for performing the Work of this Contract, Bidders may be requested to submit written evidence of previous experience and proper license to perform work in State of Georgia.

1.13 BIDDER PREQUALIFICATION

A. Bidder prequalification for this project is not required.

1.14 SUBCONTRACTORS

A. Owner reserves right to reject a proposed Subcontractor for reasonable cause.

1.15 SUBMISSION PROCEDURE

A. Bidders shall be solely responsible for delivery of Bids in manner and time prescribed.

B. Submit three copies of the executed offer on provided Bid Forms, signed and sealed with required Bid Bond in a closed opaque envelope, and clearly identified with Bidder's name and address, Project name, General Contractors License Number, and Owner's name on outside.

C. Improperly completed information, including irregularities in Bid bond, will be cause not to open Bid Form envelope and to declare Bid invalid or informal.

D. An abstract summary of submitted Bids will be made available to all Bidders following Bid opening.

1.16 BID INELIGIBILITY

A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, and obscure, or Bids that contain arithmetical errors, erasures, alterations, or irregularities, may be declared unacceptable at Owner's discretion.

B. Bid Forms, Appendices, and enclosures that are improperly prepared may be declared unacceptable at Owner's discretion.

C. Failure to provide security deposit, bonds, or insurance requirements will invalidate Bid at Owner's discretion.

1.17 BID SECURITY

A. Bids shall be accompanied by Bid security as follows:

1. Bid bond in the amount of 5 percent of Bid Sum.

B. Endorse Bid bond in name of The City of Rome, Georgia. Signed and sealed by principal (Contractor) and surety.

C. Bid securities will be returned after delivery to Owner of required performance and payment bonds by accepted Bidder.

D. If accepted Bidder fails to execute the Agreement and indicated bonds within 15 days after Notice of Award, Notice of Award may be annulled and Bidder's Bid security will be forfeited.

E. Include cost of Bid security in Bid Sum/Price

F. After Bid has been accepted, Bid security will be returned to respective Bidders.

G. If no contract is awarded, Bid security will be returned.

1.18 PERFORMANCE ASSURANCE

A. Accepted Bidder: Provide performance and payment bond as described in Document 007314 - Supplementary Conditions - EJCDC

B. Include cost of performance assurance bonds in Bid Sum/Price. Separate payment will not be made.

1.19 INSURANCE

A. Provide an executed "Undertaking of Insurance" on Standard form provided by the insurance company, stating insurance company's intention to provide insurance to Bidder according to insurance requirements of Contract Documents.

1.20 BID FORM REQUIREMENTS

A. Complete requested information in Bid Form and Bid Form Supplements.

B. Refer to Document 007314 - Supplementary Conditions - EJCDC for inclusion of taxes, and tax-exempt products.

1.21 FEES FOR CHANGES IN THE WORK

A. Include in Bid Form the overhead and profit fees on Bidder's own Work and Work by Subcontractors, applicable for changes in the Work, whether additions to or deductions from the Work on which Bid Sum/Price is based.

B. Subcontract Work:

1. Include in Bid Form the fees proposed for subcontract Work for changes, both additions and deductions, in the Work.

1.22 BID FORM SIGNATURE

A. Sign Bid Form as follows:

1. Sole Proprietorship:

a. Signature of sole proprietor in presence of a witness who will also sign.
b. Include words "Sole Proprietor" under signature.
c. [**Affix seal.**]

2. Partnership:

a. Signature of each partner in presence of a witness who will also sign.
b. Include word "Partner" under each signature.
c. [**Affix seal to each signature.**]

3. Corporation:

a. Signature of at least one duly authorized signing officer.
b. Include officer's capacity under each signature.
c. Affix corporate seal.
d. If Bid is signed by officials other than president, secretary, or treasurer of company, submit a copy of bylaws or a resolution of board of directors authorizing them to do so, included with Bid Form in Bid envelope.

4. Joint Venture:

a. Signature of each party of joint venture under their respective seals in a manner appropriate to such party as described above, similar to requirements for partnerships.

1.23 ADDITIONAL BID INFORMATION

A. Complete and submit with Bid, Document 004300 - Procurement Form Supplements.

1. Appendix A - List of Subcontractors: Include names of all Subcontractors and portions of the Work each Subcontractor will perform.
2. Appendix B - List of Unit Prices: Include list of Unit Prices specifically requested by Contract Documents.
3. Appendix C - List of Alternates: Include cost variation to Bid Sum/Price applicable to Work described in Section 012000 - Price and Payment Procedures.
4. Appendix D - List of Separate Prices: Include list of separate prices as specifically requested in Contract Documents.
5. Appendix E - Cost Breakdown: Includes Bid sum/price segmented into portions as requested.
6. Appendix F - List of Supplementary Mechanical Information, if required.
7. Appendix G - List of Supplementary Electrical Information, if required.
8. Appendix H - List of Equipment.
9. Appendix I - List of Tax Rebate Items.

1.24 SELECTION AND AWARD OF ALTERNATES

A. Evaluation:

1. Bids will be evaluated on base Bid Price or Base Plus any Alternates.

1.25 BID OPENING

A. Description:

1. Bids will be opened publicly immediately after time for receipt of Bids.
2. Bidders may be present.

1.26 DURATION OF OFFER

A. Bids shall remain open to acceptance and shall be irrevocable for a period of **60** days after Bid closing date.

1.27 ACCEPTANCE OF OFFER

A. Owner reserves right to waive irregularities and to accept or reject any or all offers.

B. After acceptance by Owner, Owner will issue to the accepted Bidder a written Notice of Award.

C. Notwithstanding delay in the preparation and execution of the Agreement, accepted Bidder shall be prepared, upon written Notice to Proceed, to commence Work within 30 days following receipt of official written order of Owner to proceed, or on date stipulated in such order.

D. Accepted Bidder shall assist and cooperate with Owner to prepare Agreement, and shall execute Agreement and return it to Owner within 15 days following its presentation.

1.28 ADDITIONAL INFORMATION

A. Owner reserves the right to lengthen or reduce contract quantities when necessary to meet the Owners time frame.

B. If Owner lengthens the proposed contract quantities all items where unit prices are given will be utilized. Items without units prices will be handle as proposed within the contract documents.

C. If Owner reduces the proposed contract quantities Owner will pay restocking fee or purchase pipe and materials from Contractor.

END OF DOCUMENT 002113

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SECTION 004100 – BID SECURITY FORMS

1.1 BID FORM SUPPLEMENT

A. A completed bid bond form is required to be attached to the Bid Form.

1.2 BID BOND FORM

A. EJCDC Document C-430, "Bid Bond," is the recommended form for a bid bond. A bid bond acceptable to Owner, or other bid security as described in the Instructions to Bidders, is required to be attached to the Bid Form as a supplement.

B. A copy of the form is attached in these documents.

END OF SECTIONS 004100

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BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name, and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date:

Description *(Project Name— Include Location)*:

BOND

Bond Number:

Date:

Penal sum _____ $ _____

(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER	**SURETY**
_____ (Seal)	_____ (Seal)
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: _____	By: _____
Signature	Signature (Attach Power of Attorney)
_____	_____
Print Name	Print Name
_____	_____
Title	Title
Attest: _____	Attest: _____
Signature	Signature
Title	Title

Note: Addresses are to be used for giving any required notice.
Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

3. This obligation shall be null and void if:

3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or

3.2 All Bids are rejected by Owner, or

3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

BID FORM

TO: City of Rome – Purchasing Department
ATTN: JOHNNA M. ALLEN
P.O. Box 1433
601 Broad Street
Rome, Georgia 30162-1433

"008-18 "Mt. Alto Water Transmission Main Project"

Quantity	Description	Total Cost
1	**Water Transmission Main Project**	**$ _____**

Expected date of Completion: _____

All bids submitted shall be subject to acceptance or rejection and the City of Rome specifically reserves the right to accept or reject any or all bids, to waive any technicalities and formalities in the bidding.

The undersigned understands that any conditions stated above, clarifications made to the above or information other than that requested should be under separate cover and to be considered only at the discretion of the Purchasing Department.

_____ _____
Name of Individual, Partner or Corporation — Company

_____ _____
Title — Address

_____ _____
Authorized Signature — City, State, Zip Code

_____
Company phone number

Please attach contact's business card:

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SECTION 004143 - BID FORM - UNIT PRICE (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

A. To: City of Rome, Georgia

B. Project Name: Mt. Alto - Water Transmission Main

C. InSite Project No.: 16127.00

D. Owner Bid # 008-18

E. Date:

F. Submitted by:

1. Name: _____
2. Address: _____

1.2 OFFER

A. Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the InSite Engineering, LLC for the above-referenced Project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Unit Prices listed in this Bid Form in lawful money of the United States of America.

B. We have included the Bid security as required by the Instructions to Bidders.

C. All applicable federal taxes are included and State of Georgia, Floyd County, and City of Rome taxes are included in the Unit Prices.

D. All Allowances described in Section 012000 - Price and Payment Procedures are included in the Unit Prices.

1.3 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for 60 days from the Bid closing date.

B. If this Bid is accepted by the Owner within the time period stated above, we will:

1. Execute the Agreement within 15 days of receipt of Notice of Award.
2. Furnish the required bonds within 15 days of receipt of Notice of Award.
3. Commence Work within 30 days after written Notice to Proceed.

C. If this Bid is accepted within the indicated time, and we fail to commence the Work or we fail to provide the required bonds, the Bid security shall be forfeited as damages to the Owner by

reason of our failure, limited in amount to the lesser of the face value of the Bid security or the difference between this Bid and the Bid upon which a Contract is signed.

D. In the event our Bid is not accepted within the time stated above, the required Bid security will be returned to the undersigned, according to the provisions of the Instructions to Bidders, unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

1.4 CONTRACT TIME

A. If this Bid is accepted, we will:
1. Owner requires the Project to be substantially completed within **120** calendar days after the date when the Contract Times commence to run as dated in the Notice to Proceed and completed and ready for final payment within **150** calendar days after the date when the Contract Times commence to run as dated in the Notice to Proceed.

1.5 UNIT PRICES

A. Following are Unit Prices for specific portions of the Work as listed:

BASE BID

Item	Description	Unit	Units	Unit Price	Total
1	10" HDPE DR 9 Water Line, Fittings, Concrete Braces, Furnished and Installed, (Per Linear Foot)	1,620	LF		
2	8" D.I. CL 350 Restrained Joint Water Line, Fittings, Concrete Braces, Furnished and Installed, (Per Linear Foot)	1,700	LF		
3	8" D.I. CL 350 Water Line, Fittings, Concrete Braces, Furnished and Installed, (Per Linear Foot)	3,520	LF		
4	3" HDPE DR 9 Water Line, Fittings, Concrete Braces, Furnished and Installed, (Per Linear Foot)	1,490	LF		
5	8" Gate Valve With Cast Iron Valve Box, Lid, and Locator Pads, Furnished and Installed, (Per Each)	10	EA		
6	Flushing Assembly, Furnished and Installed, (Per Each)	1	EA		
7	2" Automatic Air Release Valve with 20' Length of Level Pipe, Furnished and Installed, (Per Each)	1	EA		
8	2" Pressure Reducing Valve, Furnished and Installed, (Per Each)	1	EA		
9	Fire Hydrant Assembly & Valve, With Cast Iron Valve Box, Lid, and Locator Pads, Furnished and Installed, (Per Each)	2	EA		

10	Water Meter and Meter Box, Installation Only of Owner Furnished Water Meter and Meter Box, (Per Each)	17	EA		
11	Line WL-1, Sta. 0+00, Connection to Existing Water System, Furnished and Installed, (Per Each)	1	LS		
12	Line WL-1, Sta. 34+14, Connection to Existing Water System, Furnished and Installed	1	LS		
13	Line WL-2, Sta. 0+00, Connection to Existing Water System, Furnished and Installed	1	LS		
14	Line WL-2, Sta. 1+55, Connection to Existing Water System, Furnished and Installed	1	LS		
15	Line WL-2, Sta. 9+90, Connection to Existing Water System, Furnished and Installed	1	LS		
16	Asphalt Trench Repair, Full Depth Build-up, Furnished and Installed, (Per Square Yard)	1,230	SY		
17	Stone Backfill Within Roadway, Furnished and Installed, (Per Ton)	2,100	TON		
18	Concrete Paving Replacement, Furnished and Installed	1,000	SF		

Total Base Bid _____

1.6 SCHEDULE OF PAY ITEMS

A. **Pipe (Bid Items No. 1, No. 2, No. 3, and No. 4)**

1. Basis of Measurement: Per linear foot for each size and type of pipe in terms of horizontal lengths of pipe installed in place as measured along the centerline with no deductions for fittings.
2. Basis of Payment: Such payment shall be full compensation for the furnishing and installing of pipe, fittings, concrete braces, excavation, stone bedding, jointing materials, labor, testing, etc. including and all other work necessary for and incidental to completion of the work.

B. **Valves (Bid Item No. 5)**

1. Basis of Measurement: Per each for each size and type valve in terms of the numbers actually installed.

2. Basis of Payment: Such payment shall be full compensation for the furnishing and installing of Valve, Box, Lid, excavation, stone bedding/backfill, materials, labor, testing, etc. including all other work necessary for and incidental to completion of the work.

C. Flushing Assembly (Bid Item No. 6)

1. Basis of Measurement: Per each for each flushing assembly in terms of the numbers actually installed.
2. Basis of Payment: Such payment shall be full compensation for the furnishing and installing of Flushing Assembly, Valves, Valve Boxes, Lids, stone bedding/backfill, excavation, backfill, jointing materials, labor, testing, etc. including all other work necessary for and incidental to completion of the work.

D. Automatic Air Release Valve (Bid Item No. 7)

1. Basis of Measurement: Per each for each automatic air release valve in terms of the numbers actually installed.
2. Basis of Payment: Such payment shall be full compensation for the furnishing and installing of Automatic Air Release Valve, Concrete Manhole, Lid, stone bedding/backfill, jointing materials, labor, testing, etc. including all other work necessary for and incidental to completion of the work.

E. Pressure Reducing/Sustaining Valves (Bid Item No. 8)

1. Basis of Measurement: Per each for each pressure reducing/sustaining valve in terms of the numbers actually installed.
2. Basis of Payment: Such payment shall be full compensation for the furnishing and installing of Pressure Reducing/Sustaining Valve, Concrete Manhole, Lid, stone bedding/backfill, jointing materials, labor, testing, etc. including all other work necessary for and incidental to completion of the work.

F. Fire Hydrant Assembly and Valve (Bid Item No. 9)

1. Basis of Measurement: Per each for each fire hydrant assembly and valve in terms of the numbers actually installed.
2. Basis of Payment: Such payment shall be full compensation for the furnishing and installing of Fire Hydrant Assembly and Valve, Valve Boxes, Lid, stone bedding/backfill, jointing materials, labor, testing, etc. including all other work necessary for and incidental to completion of the work.

G. Water Meter and Meter Box (Owner Supplied Meters and Meter Boxes) (Bid Item No. 10)

1. Basis of Measurement: Per each for each water meter and meter box in terms of the numbers of Owner supplied water meter and meter boxes actually installed.
2. Basis of Payment: Such payment shall be full compensation for the installing Owner Supplied Water Meters and Meter Boxes, fittings, piping, connection to water main, accessories, stone bedding/backfill, jointing materials, labor, testing, etc. including all other work necessary for and incidental to completion of the work.

H. Connection to Existing Water System (Bid Items No. 11, No. 12, No. 13, No. 14, and No. 15)

1. Basis of Measurement: The Lump Sum Price for Connections to the existing water system shown on the drawings and in the Unit Price form shall be made per each in terms of the numbers actually installed.
2. Basis of Payment: Such payment shall be full compensation for the furnishing and installing of fittings, stone, jointing materials, labor, testing, etc.; also including compensation for the disconnection, dewatering, capping, bracing and abandoning in place the existing water line at each connection point; including all other work necessary for and incidental to completion of the work.

I. **Asphalt Trench Repair (Bid Item No. 16)**

1. The quantities of asphalt trench repair for which payment will be allowed shall be expressed in square yards over which asphalt is replaced, milled, patched, repaired or overlaid. Such payment shall constitute full compensation for the performance of all work items necessary for and incidental to completion of the work and for the furnishing of all labor, tools, equipment, and incidentals necessary and appurtenant to the completion of these items to the complete satisfaction of the governing authority. See detail for thickness guidelines.

J. **Stone Backfill within Roadway (Bid Item No. 17)**

1. The quantities of stone backfill within roadway for which payment will be allowed shall be expressed in tons over which stone is backfilled within the roadway. The maximum trench volume paid on stone backfill shall be 3 feet wide by 6 feet deep by the length of the trench. Contractor to submit all haul tickets for stone backfill within roadway. Such payment shall constitute full compensation for the performance of all work items necessary for and incidental to completion of the work and for the furnishing of all labor, tools, equipment, and incidentals necessary and appurtenant to the completion of these items to the complete satisfaction of the governing authority. See detail for material and requirements.

K. **Concrete Paving Repair (Bid Item No. 18)**

1. The quantities of concrete driveway repair for which payment will be allowed shall be expressed in square feet over which concrete is replaced or repaired. Such payment shall constitute full compensation for the performance of all work items necessary for and incidental to completion of the work and for the furnishing of all labor, tools, equipment, and incidentals necessary and appurtenant to the completion of these items to the complete satisfaction of the governing authority. See detail for thickness guidelines.

1.7 ADDENDA

A. Following Addenda have been received, and the modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum/Price

1. Addendum No. ....., dated .....
2. Addendum No. ....., dated .....
3. Other:_____, dated …….

1.8 APPENDICES

A. Following documents are attached to and made a condition of the Bid:

1. Bid security in amount of _____
2. Bidder's qualifications statement and supporting data.
3. Document 004300 - Procurement Form Supplements, including all items required by Instructions to Bidders:

1.9 BID FORM SIGNATURES

A. Full Name of Bidder: .....

B. Hereunto affixed in the presence of .....

C. Authorized Signing Officer and Title: .....

D. [**Seal: .....**]

E. Address for giving Notice: ……...

END OF DOCUMENT 004143

BIDDERS DECLARATION

The bidder understands, agrees and warrants:

- The bidder has carefully read and fully understands the full scope of the specifications.
- The bidder has the capability to successfully undertake and complete the responsibilities and obligations in said specifications.
- The bidder has liability insurance and a declaration of insurance form is included in the bid package.
- That this bid may be withdrawn by requesting such withdrawal in writing at any time prior to **March 29, 2018 @ 10:00 a.m.** but may not be withdrawn after such date and time.
- That the City of Rome reserves the right to reject any or all bids and to accept that bid which will, in its opinion, best serve the public interest. The City of Rome reserves the right to waive any technicalities and formalities in the bidding.
- That by submission of this bid the bidder acknowledges that the City of Rome has the right to make any inquiry or investigation it deems appropriate to substantiate or supplement information supplied by the bidder.

If a partnership, a general partner must sign.

If a corporation, the authorized corporate officer(s) must sign and the corporate seal must be affixed to this bid.

BIDDER:

_____ _____

Name Title

_____ _____

Name Title

AFFIX CORPORATE SEAL (If Applicable)

CERTIFICATE OF NON-DISCRIMINATION

In connection with the performance of work under this contract, the bidder agrees as follows:

The bidder agrees not to discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, ancestry or disability. The vendor shall take affirmative action to insure that employees are treated without regard to their race, creed, color, sex, national origin, ancestry or disability. Such action shall include, but not be limited to the following: employment, upgrading, demotion, transfer, recruiting or recruitment, advertising, lay-off or termination, rates of pay or other compensation and selection for training, including apprenticeship.

In the event of the bidder's non-compliance with this non-discrimination clause, the contract may be canceled or terminated by the City of Rome. The bidders may be declared, by the City of Rome, ineligible for further contracts with the City of Rome until satisfactory proof of intent to comply shall be made by the vendor.

The bidder agrees to include this non-discrimination clause in any sub-contracts connected with the performance of this agreement.

_____

BIDDER

_____

SIGNATURE

_____

TITLE

NON-COLLUSION AFFIDAVIT

The following affidavit is to accompany the bid:

STATE OF

COUNTY OF

Owner, Partner or Officer of Firm

Company Name, Address, City and State

Being of lawful age, being first duly sworn, on oath says that he/she is the agent authorized by the bidder to submit the attached bid. Affidavit further states as bidder, that they have not been a party to any collusion among bidders in restraint of competition by agreement to bid at a fixed price or to refrain from bidding; or with any office of the City of Rome or any of their employees as to quantity, quality or price in the prospective contract; or any discussion between bidders and any official of the City of Rome or any of their employees concerning exchange of money or other things of value for special consideration in submitting a sealed bid for:

FIRM NAME _____

SIGNATURE _____

TITLE _____

Subscribed and sworn to before me this_____ day of _____ 20_____

_____

NOTARY PUBLIC

STATE OF GEORGIA PROMPT PAY ACT AFFIDAVIT

THIS AFFIDAVIT IS TO ACCOMPANY THE BID

GEORGIA PROMPT PAY ACT: The Georgia Prompt Pay Act was enacted by the General Assembly in 1994 and took effect January 1, 1995. This act requires owners to pay contractors within 15 days of receipt of a pay request by the owner or the owner's representative. If payment is not made the owner shall pay the contractor 1% per month interest on the delayed payment. Additionally, the contractor must pay subcontractors within 15 days of receipt of payment from the owner.

This Act is Code Section 13-11-1 (Georgia Laws of 1994, p. 1398 par. 4)

Firm Name: _____

Signature: _____

Title: _____

Subscribed and Sworn to before me this_____ day of _____, 20_____

_____
Notary Public

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See **Specific Instructions** on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____

Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number

___ – ___ – ____

or

Employer identification number

__ – _____

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here **Signature of U.S. person ▶** **Date ▶**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

CITY OF ROME

DRUG-FREE WORKPLACE CERTIFICATE

By signature on this certificate, the Bidder certifies that the provisions of O.C.G.A. Section 50-24-1 through 50-24-6 related to the "Drug-Free Workplace Act" will be complied with in full. The Bidder further certifies that:

1. A drug-free workplace will be provided for the Bidder's employees during the performance of the contract; and

2. Each contractor who hires a subcontractor to work in a drug-free workplace shall secure from that subcontractor the following written certification: "As part of the subcontracting agreement with (contractor's name), (subcontractor's name) certifies to the contractor that a drug-free workplace will be provided for the subcontractor's employees during the performance of this contract pursuant to O.C.G.A. Section 50-24-3(b)(7)."

By signature on this certificate, the Bidder further certifies that it will not engage in the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana during the performance of the contract.

Bidder: _____

By: _____

Name Printed: _____

Title: _____

Date: _____

CITY OF ROME, GEORGIA
E-VERIFY COMPLIANCE AFFIDAVIT

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

_____
Federal Work Authorization User Identification number
(Not Required if Less than 10 Employees)

_____
Signature (if less than 10 employees)

_____
Date of Authorization

_____
Name of Contractor

_____
Name of Project

_____
Name of Public Employer

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

Executed on _____, ____, 20____ in _____(city) _____ (state).

_____
Signature of Authorized Officer or Agent

_____
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE _____ DAY OF _____, 20_____

_____
NOTARY PUBLIC
My Commission Expires:

CITY OF ROME, GEORGIA

SAVE COMPLIANCE AFFIDAVIT
O.C.G.A § 50-36-1(e) (2) Affidavit

By executing this affidavit under oath, as an applicant for a (n) Contract or Services, as referenced O.C.G.A. C. § 50-36-1, from the City of Rome, Georgia, the undersigned applicant verifies one of the following with respect to my application for a public benefit:

1) _____ I am a United State citizen.

2) _____ I am a legal permanent resident of the United States

3) _____ I am a qualified alien or non-immigrant under the Federal Immigration and Nationality Act with an alien number issued by the Department of Homeland Security or other federal immigration agency.

My alien number issued by the Department of Homeland Security or other federal immigration agency is: _____.

The undersigned applicant also hereby verifies that he or she is 18 years of age or older and has provided at least one secure and verifiable document, as required by O.C.G.A. § 50-36-1(e) (1), with this affidavit.

The secure and verifiable document provided with this affidavit can best be classified as: _____.

In making the above representation under oath, I understand that any person who knowingly and willfully makes a false, fictitious, or fraudulent statement or representation in an affidavit shall be guilty of a violation of O.C.G.A. § 16-10-20, and face criminal penalties as allowed by such criminal statute.

Executed in _____ (city), _____ (state).

_____
Signature of Applicant

_____ Printed Name of Applicant

SUBSCRIBED AND SWORN

BEFORE ME ON THIS THE

_____DAY OF _____, 20_____

_____
NOTARY PUBLIC
My Commission Expires:

SECTION 004300 - PROCUREMENT FORM SUPPLEMENTS

1.1 PROJECT INFORMATION

A. To: The City of Rome, Georgia

B. Project Name: Mt. Alto Water Transmission Main

C. InSite Project No.: 16127.00

D. Owner Bid # 008-18

E. Date: .....

F. Submitted by: .....

G. Full name and address: .....

H. According to Document 002113 - Instructions to Bidders] and Document 004113 - Bid Form – Stipulated Sum (Single-Prime Contract**)**, we include the Appendices to Bid Form Supplements listed below.

1. The information provided shall be considered an integral part of the Bid Form.
2. Following Appendices are attached to this Document:

    a. Appendix A - List of Subcontractors: Include names of all Subcontractors and portions of the Work each Subcontractor will perform.
    b. Appendix B - List of Unit Prices: Include list of Unit Prices specifically requested by Contract Documents.
    c. Appendix C - List of Alternates: Include cost variation to Bid Sum/Price applicable to the Work as described in Section 012000 - Price and Payment Procedures.
    d. Appendix D - List of Separate Prices: Include list of separate prices as specifically requested in Contract Documents.
    e. Appendix E - Cost Breakdown: Includes Bid Sum/Price segmented into portions as requested.
    f. Appendix F - List of Supplementary Mechanical Information. If Applicable.
    g. Appendix G - List of Supplementary Electrical Information. If Applicable.
    h. Appendix H - List of Equipment. If Applicable.
    i. Appendix I - List of Tax Rebate Items. If Applicable.

1.2 BID FORM SUPPLEMENT SIGNATURES

A. The Corporate Seal of.....

B. (Bidder - print the full name of your firm) ……..

C. was hereunto affixed in the presence of .....

D. (Authorized signing officer and title) …….

E. (Seal) .....

F. (Authorized signing officer and title): ……

G. (Seal) .....

1.3 APPENDIX A - LIST OF SUBCONTRACTORS

A. The list of Subcontractors submitted below is an integral part of the Bid Form and is referenced in the Bid submitted by:

1. (Bidder) .....
2. (Sub)……..
3. (Sub)……..
4. (Sub)……..
5. (Sub)……..
6. (Sub)……..

B. Following work will be performed (or provided) by Subcontractors and coordinated by us:
1. Work……By……..
2. Work……By……..
3. Work……By……..
4. Work……By……..

1.4 APPENDIX B - LIST OF UNIT PRICES

A. Following list of Unit Prices is an integral part of the Bid Form and is referenced in the Bid submitted by:

1. (Bidder) .....
2. To: The City of Rome, Georgia
3. Dated .....

B. Following Unit Prices are for specific portions of the Work as listed and are applicable to authorized variations from the Contract Documents:
1. See Bid Form

1.5 APPENDIX C - LIST OF ALTERNATES

A. Following list of alternates is an integral part of the Bid Form and is referenced in the Bid submitted by:

1. (Bidder) .....
2. To: The City of Rome, Georgia
3. Dated .....
4. Alternate……..

B. Following amounts shall be added to or deducted from the Bid Sum/Price. Refer to Schedule of Alternates in Section 012000 - Price and Payment Procedures for description of alternates.

1. Alternate No…….
2. Add Value. ……

1.6 APPENDIX D - LIST OF SEPARATE PRICES
1. SEE BID FORM

1.7 APPENDIX E - COST BREAKDOWN
1. SEE BID FORM.

1.8 APPENDIX F - LIST OF SUPPLEMENTARY MECHANICAL INFORMATION
1. N/A

1.9 APPENDIX G - LIST OF SUPPLEMENTARY ELECTRICAL INFORMATION
1. N/A

1.10 APPENDIX H - LIST OF EQUIPMENT
1. N/A

1.11 APPENDIX I - LIST OF TAX REBATE ITEMS
1. N/A

1.12 APPENDIX J – CONSTRUCTION SCHEDULE

END OF DOCUMENT 004300

This page intentionally left blank.

SECTION 005213.12 - AGREEMENT FORM - EJCDC STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 AGREEMENT

A. Basis of Agreement between Owner and Contractor: EJCDC C-520 - Agreement between Owner and Contractor for Construction Contract (Stipulated Price).

END OF DOCUMENT 005213.12

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AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between The City of Rome, Georgia ("Owner") and

("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows:

THE INSTALLATION OF A NEW 8" DUCTILE IRON WATER LINE, 10" HDPE WATER LINE, 2" HDPE WATER LINE, VALVES, FLUSHING ASSEMBLIES, WATER METERS (OWNER SUPPLIED), FIRE HYDRANTS, ROADWAY TRENCH REPAIR, DRIVEWAY TRENCH REPAIR, AND ALL OTHER NECESSARY APPURTENANCES.

ARTICLE 3 – ENGINEER

3.01 The part of the Project that pertains to the Work has been designed by InSite Engineering, LLC.

3.02 The Owner has retained InSite Engineering, LLC ("Engineer") to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Contract Times: Days*

A. The Work will be substantially completed within **120** days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **150** days after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the

actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner $750 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner $750 for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

4.04 *Special Damages*

A. In addition to the amount provided for liquidated damages, Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.

B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

A. For all Work other than Unit Price Work, a lump sum of: $_____.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

B. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item):

Unit Price Work					
Item No.	**Description**	**Unit**	**Estimated Quantity**	**Unit Price**	**Extended Price**
Total of all Extended Prices for Unit Price Work (subject to final adjustment based on actual quantities)					$

The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.

C. Total of Unit Price Work (subject to final Unit Price adjustment) $_____.

D. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment within 15 days from Owner receiving approved Application of Payment from Engineer during performance of the Work.

6.02 *Progress Payments; Retainage*

A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment within 15 days from Owner receiving approved Application of Payment from Engineer during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract

a. 90 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and

b. 90 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 95 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of *1* percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.

B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.

E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

A. The Contract Documents consist of the following:

1. This Agreement (pages 1 to 8, inclusive).
2. Performance bond (pages ___ to ___, inclusive).
3. Payment bond (pages ___ to ___, inclusive).
4. Other bonds.
   a. ___ (pages ___ to ___, inclusive).
5. General Conditions (pages ___ to ___, inclusive).
6. Supplementary Conditions (pages ___ to ___, inclusive).
7. Specifications as listed in the table of contents of the Project Manual.

   Drawings (not attached but incorporated by reference) consisting of **20** sheets with each sheet bearing the following general title: "**MT. ALTO - WATER TRANSMISSION MAIN"**.

8. Addenda (numbers ___ to ___, inclusive).
9. Exhibits to this Agreement (enumerated as follows):
   a. Contractor's Bid (pages ___ to ___, inclusive).
10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
    a. Notice to Proceed.
    b. Work Change Directives.
    c. Change Orders.
    d. Field Orders.

B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).

C. There are no Contract Documents other than those listed above in this Article 9.

D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process or in the Contract execution;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 *Other Provisions*

A. Owner stipulates that if the General Conditions that are made a part of this Contract are based on EJCDC® C-700, Standard General Conditions for the Construction Contract, published by the Engineers Joint Contract Documents Committee®, and if Owner is the

party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on_____ (which is the Effective Date of the Contract).

OWNER:	CONTRACTOR:
The City of Rome, Georgia	
By:	By:
Title:	Title:
	(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Attest:	Attest:
Title:	Title:
Address for giving notices:	Address for giving notices:
The City of Rome, Georgia	
601 Broad Street	
Rome, Georgia 30162	
	License No.: *(where applicable)*
(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)	*NOTE TO USER: Use in those states or other jurisdictions where applicable or required.*

SECTION 006000.00 – PROJECT FORMS

1.1 FORM OF AGREEMENT AND GENERAL CONDITIONS

A. The following form of Owner/Contractor Agreement and form of the General Conditions shall be used for Project:

1. EJCDC Document C-520, "Suggested Form of Agreement between Owner and Contractor for Construction Contract (Stipulated Price)."

a. The General Conditions for Project are EJCDC Document C-700, "Standard General Conditions of the Construction Contract."

2. The General Conditions are included in the Project Manual.

3. The Supplementary Conditions for Project are separately prepared and included in the Project Manual.

1.2 ADMINISTRATIVE FORMS

A. Administrative Forms: Additional administrative forms are specified in Division 01 General Requirements.

B. Copies of standard forms not included in the Project Manual may be obtained from the respective agencies who produce the forms.

C. Preconstruction Forms:

1. Form of Performance Bond: EJCDC Document C-610, "Performance Bond."

2. Form of Payment Bond: EJCDC Document C-615(A), “Payment Bond.”

D. Information and Modification Forms:

1. Form for Requests for Information (RFIs): Engineer’s Standard Form issued for the Project.
2. Change Order Form: EJCDC Document C-941, "Change Order."
3. Form of Engineer’s Memorandum for Minor Changes in the Work: EJCDC Document C-942, "Field Order."
4. Form of Work Change Directive: EJCDC Document C-940, "Work Change Directive."

E. Payment Forms:

1. Schedule of Values Form: Contractor’s Standard Form issued for the Project.
2. Payment Application: EJCDC Document C-620, "Contractor’s Application for Payment."

3. Form of Contractor's Affidavit: AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
4. Form of Affidavit of Release of Liens: AIA Document G706A, "Contractor's Affidavit of Payment of Release of Liens."
5. Form of Consent of Surety: AIA Document G707, "Consent of Surety to Final Payment."

END OF SECTION 006000

EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and

7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.

9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.

10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14. Definitions

14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.

15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

16. Modifications to this Bond are as follows:

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EJCDC
ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT
Effective Date of the Agreement:
Amount:
Description *(name and location)*:

BOND
Bond Number:
Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:
Amount:
Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

_____ *(seal)*
Contractor's Name and Corporate Seal

By: _____
Signature

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

SURETY

_____ *(seal)*
Surety's Name and Corporate Seal

By: _____
Signature *(attach power of attorney)*

_____
Print Name

_____
Title

Attest: _____
Signature

_____
Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.

4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.

5. The Surety's obligations to a Claimant under this Bond shall arise after the following:

   5.1 Claimants who do not have a direct contract with the Contractor,

      5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and

      5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).

   5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).

6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.

7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

   7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

   7.2 Pay or arrange for payment of any undisputed amounts.

   7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.

11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph

are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. **Definitions**

    16.1 **Claim:** A written statement by the Claimant including at a minimum:

        1. The name of the Claimant;
        2. The name of the person for whom the labor was done, or materials or equipment furnished;
        3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
        4. A brief description of the labor, materials, or equipment furnished;
        5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
        6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
        7. The total amount of previous payments received by the Claimant; and
        8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

    16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

    16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

    16.4 **Owner Default**: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

    16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

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SECTION 007213.12 - GENERAL CONDITIONS - EJCDC STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 GENERAL CONDITIONS

A. General Conditions of the Contract: EJCDC C-700 - Standard General Conditions of the Construction Contract.

B. The EJCDC C-700 - Standard General Conditions of the Construction Contract shall apply and are not included within these documents but may be provided to the Contractor at their request. It is the Contractors sole responsibility to review the EJCDC C-700 - Standard General Conditions of the Construction Contract.

1.2 SUPPLEMENTARY CONDITIONS

A. Refer to Document 007314 - Supplementary Conditions - EJCDC for amendments and supplements to General Conditions.

END OF DOCUMENT 007213.12

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SECTION 007314 - SUPPLEMENTARY CONDITIONS - EJCDC

1.1 SUPPLEMENTARY CONDITIONS

A. Amendments:

1. These Supplementary Conditions amend or supplement EJCDC C-700 - Standard General Conditions of the Construction Contract and other provisions of the Contract Documents as indicated below.
2. All provisions not amended or supplemented remain in full force.

B. The terms used in these Supplementary Conditions, which are defined in EJCDC C-700, have the meanings assigned to them in the General Conditions.

C. (SC-1.01.A): Add following to Paragraph 1.01.A:

1. (Paragraph SC-1.01.A) Products: New material, machinery, components, equipment, fixtures, and systems forming the Work, not including machinery and equipment used for preparation, fabrication, conveying, and erection of the Work. Products may also include existing materials or components required for reuse.

D. (SC-3.01.D): Add following Paragraph immediately after Paragraph 3.01.C:

1. (Paragraph 3.01.D): Sections of Division 01 govern the execution of the Work of all Sections of the Specifications.

E. (SC-4.01.A): Delete Paragraph 4.01.A in its entirety and insert following in its place:

1. (Paragraph 4.01.A): Contract Times are identified in Document 004143 - Bid Form - Unit Price (Single-Prime Contract)

F. (SC-5.03): Delete Paragraphs 5.03.A and 5.03.B and insert following:

1. (Paragraph 5.03.A): No reports or explorations or tests of subsurface conditions at or contiguous to the Site, or drawings of physical conditions relating to existing surface or subsurface structures at the Site, are known to Owner.

G. (SC-5.06): Delete Paragraphs 5.06.A and 5.06.B and insert following:

1. (Paragraph 5.06.A): No reports or drawings related to Hazardous Environmental Conditions at the Site are known to Owner.

H. (SC-6.01.A): Amend Paragraph 6.01.A and add two Subparagraphs as follows:

1. (Paragraph 6.01.A): Delete the first sentence and substitute the following: Contractor shall furnish a performance bond and a payment bond as security for the faithful performance and payment of all of Contractor's obligations under the Contract.

a. (Subparagraph 6.01.A.1): Furnish a performance bond in the amount of 100 percent of Contract Price.
b. (Subparagraph 6.01.A.2): Furnish a payment bond in the amount of 100 percent of Contract Price.

I. (SC-6.01.B): Add following Subparagraphs to Paragraph 6.01.B:

1. (Subparagraph 6.01.B.1): Furnish Performance Bond on EJCDC C-610 standard surety bond form.
2. (Subparagraph 6.01.B.2): Furnish Payment Bond on EJCDC C-615 standard surety bond form.

J. (SC-6.03): Contractor's Insurance.

SC-6.03 The Contractor shall not commence work under this contract until all insurance described below has been obtained and the Owner has approved such insurance, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved by the Contractor.

(a) Worker's Compensation: The Contractor shall procure and shall maintain during the life of the Contract Agreement, Workmen's Compensation Insurance for all of his employees to be engaged in work on the project under this contract, and in case any such work is sublet, the Contractor shall require the subcontractor similarly to provide Workmen's Compensation insurance for all the latter's employees to be engaged in such work unless such employees are covered by the protection afforded by the Contractor's Workmen's Compensation insurance. Workmen's Compensation insurance shall include Broad Form All States endorsement.

(b) Comprehensive General Liability: The Contractor shall procure and shall maintain during the life of the Contract Agreement, such Comprehensive General Liability insurance as shall protect him and any subcontractor performing work covered by this contract from claims for damages for bodily injury, including accidental death, as well as from claims for property damages, which may arise from operations under the Contract Agreement, whether such operations are by himself or by any subcontractor or by anyone directly or indirectly employed by either of them. The amount of insurance shall not be less than the following:

$1,000,000	Bodily Injury, including death, each occurrence.
$250,000	Property Damage, each occurrence.
$2,000,000	Property Damage, in the aggregate.

The insurance shall include coverage of the following hazards:

Products/Completed Operations

Independent Contractors

Contractual Liability

(c) Owner's Protective Liability: The Contractor shall procure and shall maintain during this life of the Contract Agreement, Owner's Protective Liability Insurance with the same limits as the Comprehensive General Liability.

(d) Automobile Liability: The Contractor shall procure and shall maintain during the life of the Contract Agreement, Comprehensive Automobile Liability insurance in amounts not less than the following:

$1,000,000	Bodily Injury or death to any one person.
$1,000,000	Bodily Injury, each occurrence.
$250,000	Property Damage, each occurrence.

(e) Materials and Equipment Floater: The Contractor shall procure and shall maintain during the life of the Contract Agreement, Materials and Equipment Floater Insurance to protect the interests of the Owner, Contractor, and Subcontractors against loss by vandalism, malicious mischief, and all hazards included in a standard All Risk Endorsement. The amount of the insurance shall at all times equal or exceed the full amount of the Contract. The policies shall be in the names of the Owner and the Contractor.

(f) Certificates of Insurance: Certificates acceptable to the Owner shall be attached to the signed Contract Documents when they are transmitted to the Owner for execution. These certificates shall contain the statement that "Coverages afforded under the policies will not be cancelled unless at least thirty (30) days prior to cancellation written notice has been given to the Owner, as evidenced by receipts of registered or certified mail."

Indemnification: The Contractor will indemnify and hold harmless the Owner, its agents and employees from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from the performance of the work, provided that any such claims, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom; and is caused in whole or in part by any negligent or willful act or omission of the Contractor, and subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

In any and all claims against the Owner, or any of their agents or employees, by any employee of the Contractor, any subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any subcontractor under workmen's compensation acts, disability benefit acts or other employee benefits acts.

The obligation of the Contractor under this paragraph shall not extend to the liability of the Owner, his agents or employees arising out of the preparation or approval or drawings, opinions, reports, surveys, change orders, designs or specifications.

The following other persons or entities shall be included on all policies as additional insureds:

a. The City of Rome, Georgia

b. InSite Engineering, LLC

K. (SC-6.05): Delete Paragraph 6.05.A in its entirety and insert the following in its place:

A. Contractor shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof. Contractor shall be responsible for any deductible or self-insured retention. This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, Engineer, and Subconsultants and the officers, directors, partners, employees, agents and other consultants and subcontractors of any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or loss payee;

2. be written on a Builder's Risk "all-risk" policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework, and materials and equipment in transit and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage (other than that caused by flood), and such other perils or causes of loss as may be specifically required by these Supplementary Conditions.

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup;

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other loss payee to whom a certificate of insurance has been issued; and

8. comply with the requirements of Paragraph 5.06.C of the General Conditions.

L. (SC-11.04.C): Amend Paragraph 11.04.C.1 to read as follows:

1. (Subparagraph 11.04.C.1): The Agreement identifies the following:

a. (Subparagraph 11.04.C.1.a): Overhead and profit fees applicable to changes in the Work, whether additions to or deductions from the Work, on which the Contract Price is based.
b. (Subparagraph 11.04.C.1.b): Fees for changes in Subcontract work (both additions and deductions).
c. (Subparagraph 11.04.C.1.c): Contractor shall apply fees noted above to Subcontractor's gross (net plus fee) costs on additional work.

END OF DOCUMENT 007314

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Contract description.
2. Work by Owner or other Work at the Site.
3. Owner-furnished products.
4. Contractor's use of Site and premises.
5. Future work.
6. Work sequence.
7. Owner occupancy.
8. Permits.
9. Specification conventions.

1.2 CONTRACT DESCRIPTION

A. Work of the Project includes construction of a new 8” ductile iron water line, 10” HDPE water line, 2” HDPE water line, valves, flushing assemblies, water meters (Owner Supplied), fire hydrants, roadway trench repair, driveway trench repair, and all other necessary appurtenances.

B. Perform Work of Contract under stipulated sum/price Contract with Owner according to Conditions of Contract.

1.3 WORK BY OWNER OR OTHERS

A. Owner will be installing potable water line and performing work adjacent to work under these specifications and drawings.

1.4 OWNER-FURNISHED PRODUCTS

1. Water meters

B. Contractor's Responsibilities:

1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.
2. Receive and unload products at Site; inspect for completeness or damage jointly with Owner.
3. Handle, store, install, and finish products.
4. Repair or replace items damaged after receipt.

C. Items furnished by Owner for installation by Contractor:

1. N/A

1.5 CONTRACTOR'S USE OF SITE

A. Access to Site: Construction site is within the existing plant.

B. Construction Operations: Limited to Areas of Work Required

1. Noisy and Disruptive Operations (such as Use of Jack Hammers and Other Noisy Equipment): Not allowed in close proximity to existing structures outside of regular hours of operation.

C. Time Restrictions for Performing Work: The Contractor will be limited to the following working times:
1. Work Days: Monday to Friday.
2. Work Times: 8 A.M. to 5 P.M.
3. No work will be allowed on weekends or holiday or outside the times specified above except in case of emergency, and then only as required to alleviate the immediacy of the emergency.

D. Utility Outages and Shutdown:
1. Utilities to remain active at all times.
2. If Contractor brakes or damages utilities it is the Contractors responsibility to repair the broken/damaged utility at the Contractors own expense.

E. Construction Plan: Before start of construction, submit three copies of construction plan regarding access to Work, and use of Site for acceptance by Owner. After acceptance of plan, construction operations shall comply with accepted plan unless deviations are accepted by Owner in writing.

1.6 FUTURE WORK

A. N/A

1.7 WORK SEQUENCE

A. Construct Work in stages in order to accommodate Owner's occupancy requirements during construction period. Coordinate construction schedule and operations with Engineer, Operator, and Owner.

B. Contractor shall perform and pass all hydrostatic testing, disinfection, and Bacteriological testing per governing requirements before water services may be connected to new water lines.

C. Owner will provide site material. All material must be separated in kind materials; asphalt, concrete, excavated material, etc.. Material must be separated before hauling from excavation point. All trucks are required to tarp their loads. Contractor will be responsible for maintaining erosion control measures at site, stabilizing all materials before leaving site.

D. All existing fire hydrants, fire hydrant valves, etc. to be removed after completion of project and delivered to the Owner at the required location.

1.8 OWNER OCCUPANCY

A. Schedule and substantially complete designated portions of the Work for occupancy before Substantial Completion of the entire Work.

1. Owner intends to occupy adjacent areas to install water lines.
2. Owner's use and occupancy of designated areas before Substantial Completion of the entire Project do not relieve Contractor of responsibility to maintain specified insurance coverages on a 100 percent basis until date of final payment.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

1.9 PERMITS

A. Furnish necessary permits for construction of Work including the following:
1. Business License for Prime and Subs
2. Erosion and Sedimentation

1.10 SPECIFICATION CONVENTIONS

A. These Specifications are written in imperative mood and streamlined form. This imperative language is directed to Contractor unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 011000

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SECTION 012000 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Cash allowances.

B. Contingency allowances.

C. Testing and inspection allowances.

D. Schedule of Values.

E. Application for Payment.

F. Change procedures.

G. Defect assessment.

H. Unit prices.

I. Alternates.

1.2 CASH ALLOWANCES

A. Costs Included in Cash Allowances: Cost of product to Contractor or Subcontractor, less applicable trade discounts; delivery to Site and applicable taxes unless stated otherwise in Allowance Schedule.

B. Costs Not Included in Cash Allowances but Included in Contract Sum/Price: Product handling at Site including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing unless stated otherwise in Allowance Schedule.

C. Engineer Responsibilities:

1. Consult with Contractor for consideration and selection of products, suppliers, etc.
2. Select products in consultation with Owner and transmit decision to Contractor.
3. Prepare Change Order.

D. Contractor Responsibilities:

1. Assist Engineer in selection of products, suppliers. Etc.
2. Obtain proposals from suppliers and offer recommendations.
3. Upon notification of selection by Owner execute purchase agreement with designated supplier.

4. Arrange for and process Shop Drawings, Product Data, and Samples. Arrange for delivery.
5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

E. Differences in costs will be adjusted by Change Order.

1.3 CONTINGENCY ALLOWANCES

A. N/A

1.4 TESTING AND INSPECTION ALLOWANCES

A. N/A

1.5 SCHEDULE OF VALUES

A. Submit electronic file to Engineer schedule on Contractor's standard form.

B. Submit Schedule of Values within 15 days after date established in Notice to Proceed.

C. Format: Use Table of Contents of this Project Manual. Identify each line item with number and title of major Specification Section. Also identify sub milestones of each category.

D. Include in each line item amount of allowances as specified in this Section.

E. Include within each line item, direct proportional amount of Contractor's overhead and profit.

F. Revise schedule to list approved Change Orders with each Application for Payment.

1.6 APPLICATION FOR PAYMENT

A. Submit three copies, electronically, signed and sealed, of each Application for Payment on the provided application of payment form.

B. Content and Format: Use Schedule of Values for listing items in Application for Payment.

C. Submit updated construction schedule, if applicable, with each Application for Payment.

D. Submit three copies of lien waivers requested by Owner.

E. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:

1. Current construction photographs.
2. Partial release of liens from major Subcontractors and vendors.
3. Record Documents, for review by Owner, which will be returned to Contractor.

4. Affidavits attesting to off-Site stored products.
5. Construction Progress Schedule, revised and current.

1.7 CHANGE PROCEDURES

A. Submittals: Submit name of individual who is authorized to receive change documents and is responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.

B. Carefully study and compare Contract Documents before proceeding with fabrication and installation of Work. Promptly advise Architect/Engineer of any error, inconsistency, omission, or apparent discrepancy.

C. Requests for Interpretation (RFI) and Clarifications: Allot time in construction scheduling for liaison with Architect/Engineer; establish procedures for handling queries and clarifications.

1. Use provided forms for requesting interpretations.
2. Engineer may respond with a direct answer on the Request for Interpretation form or within a letter format.

D. Engineer will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time by issuing supplemental instructions on a work change directive form or within a letter format.

E. Engineer may issue Notice of Change including a detailed description of proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with stipulation of overtime work required and with the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within 5 days.

F. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change and the effect on Contract Sum/Price and Contract Time with full documentation.

G. Stipulated Sum/Price Change Order: Based on Notice of Change and Contractor's fixed price quotation or Contractor's request for Change Order as approved by Engineer.

H. Unit Price Change Order: For Contract unit prices and quantities, the Change Order will be executed on a fixed unit price basis. For unit costs or quantities of units of that which are not predetermined, execute Work under Work Directive Change. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.

I. Work Directive Change: Engineer may issue directive, on EJCDC C-940 - Work Change Directive signed by Owner, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change.

J. Document each quotation for change in Project Cost or Time with sufficient data to allow evaluation of quotation.

K. Change Order Forms: EJCDC C-941 - Change Order

1.8 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct appropriate remedy or adjust payment.

C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price reduced at discretion of Engineer and Owner

D. Authority of Engineer to assess defects and identify payment adjustments is final.

1.9 UNIT PRICES

A. Engineer will take measurements and compute quantities accordingly. Provide assistance in taking of measurements.

B. Unit Quantities: Quantities and measurements indicated on Bid Form are for Contract purposes only.

1. When actual Work requires more or fewer quantities than those quantities indicated, provide required quantities at contracted unit sum/prices.

C. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application, or installation of item of the Work; overhead and profit.

D. Owner will make progress payments on account of the Contract Price on the basis of Contractor’s Applications for Payment within 15 days from Owner receiving approved Application of Payment from Engineer during performance of the Work.

E. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Architect/Engineer multiplied by unit sum/price for Work incorporated in or made necessary by the Work.

F. Unit Price Schedule:
1. See Bid Form

1.10 ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in Owner-Contractor Agreement. The Owner-Contractor Agreement may identify certain Alternates to remain an Owner option for a stipulated period of time.

B. Coordinate related Work and modify surrounding Work. Description for each Alternate is recognized to be abbreviated but requires that each change shall be complete for scope of Work affected.

1. Coordinate related requirements among Specification Sections as required.
2. Include as part of each Alternate: Miscellaneous devices, appurtenances, and similar items incidental to or necessary for complete installation.
3. Coordinate Alternate with adjacent Work and modify or adjust as necessary to ensure integration.

C. Schedule of Alternates:
   a. N/A

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 012000

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Contractor's Application for Payment No. _____

	Application Period:	Application Date:
To (Owner):	From (Contractor):	Via (Engineer):
Project:	Contract:	
Owner's Contract No.:	Contractor's Project No.:	Engineer's Project No.:

Application For Payment

Change Order Summary

Approved Change Orders

Number	Additions	Deductions
TOTALS		
NET CHANGE BY CHANGE ORDERS		

1. ORIGINAL CONTRACT PRICE	.....	**$** _____
2. Net change by Change Orders	.....	**$** _____
3. Current Contract Price (Line 1 ± 2)	.....	**$** _____
4. TOTAL COMPLETED AND STORED TO DATE		
(Column F total on Progress Estimates)	.....	**$** _____
5. RETAINAGE:		
a. X _____ Work Completed	.....	**$** _____
b. X _____ Stored Material	.....	**$** _____
c. Total Retainage (Line 5.a + Line 5.b)	.....	**$** _____
6. AMOUNT ELIGIBLE TO DATE (Line 4 - Line 5.c)	.....	**$** _____
7. LESS PREVIOUS PAYMENTS (Line 6 from prior Application)	.....	**$** _____
8. AMOUNT DUE THIS APPLICATION	.....	**$** _____
9. BALANCE TO FINISH, PLUS RETAINAGE		
(Column G total on Progress Estimates + Line 5.c above)	.....	**$** _____

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:
(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;
(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all Liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such Liens, security interest, or encumbrances); and
(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor Signature

By:	Date:

Payment of: $ _____
(Line 8 or other - attach explanation of the other amount)

is recommended by: _____ _____
(Engineer) (Date)

Payment of: $ _____
(Line 8 or other - attach explanation of the other amount)

is approved by: _____ _____
(Owner) (Date)

Approved by: _____ _____
Funding or Financing Entity (if applicable) (Date)

Progress Estimate - Lump Sum Work

Contractor's Application

For (Contract):	Application Number:
Application Period:	Application Date:

A		B	C	D	E	F		G
			Work Completed					
Specification Section No.	Description	Scheduled Value ($)	From Previous Application (C+D)	This Period	Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F / B)	Balance to Finish (B - F)
	Totals							

Progress Estimate - Unit Price Work

Contractor's Application

For (Contract):	Application Number:
Application Period:	Application Date:

A					B	C	D	E	F		
Item		Contract Information									
Bid Item No.	Description	Item Quantity	Units	Unit Price	Total Value of Item ($)	Estimated Quantity Installed	Value of Work Installed to Date	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (F / B)	Balance to Finish (B - F)
	Totals										

Stored Material Summary

Contractor's Application

For (Contract):								Application Number:			
Application Period:								Application Date:			
A		B	C		D		E		F		G
Bid Item No.	Supplier Invoice No.	Submittal No. (with Specification Section No.)	Storage Location	Description of Materials or Equipment Stored	Stored Previously		Amount Stored this Month ($)	Subtotal Amount Completed and Stored to Date (D + E)	Incorporated in Work		Materials Remaining in Storage ($) (D + E - F)
					Date Placed into Storage (Month/Year)	Amount ($)			Date (Month/ Year)	Amount ($)	
				Totals							

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Work Change Directive No.

Date of Issuance:	Effective Date:
Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:

Contractor is directed to proceed promptly with the following change(s):

Description:

Attachments: *[List documents supporting change]*

Purpose for Work Change Directive:

Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to: *[check one or both of the following]*

☐ Non-agreement on pricing of proposed change.

☐ Necessity to proceed for schedule or other Project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price $ [increase] [decrease].

Contract Time days [increase] [decrease].

Basis of estimated change in Contract Price:

☐ Lump Sum ☐ Unit Price

☐ Cost of the Work ☐ Other

RECOMMENDED:	AUTHORIZED BY:	RECEIVED:
By:	By:	By:
Engineer (Authorized Signature)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Title:	Title:	Title:
Date:	Date:	Date:

Approved by Funding Agency (if applicable)

By: Date:

Title:

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Change Order No. _____

Date of Issuance:	Effective Date:
Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:

The Contract is modified as follows upon execution of this Change Order:

Description:

Attachments: *[List documents supporting change]*

CHANGE IN CONTRACT PRICE	**CHANGE IN CONTRACT TIMES** *[note changes in Milestones if applicable]*
Original Contract Price: $_____	Original Contract Times: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] from previously approved Change Orders No. ___ to No. ___: $_____	[Increase] [Decrease] from previously approved Change Orders No. ___ to No. ___: Substantial Completion: _____ Ready for Final Payment: _____ days
Contract Price prior to this Change Order: $_____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
[Increase] [Decrease] of this Change Order: $_____	[Increase] [Decrease] of this Change Order: Substantial Completion: _____ Ready for Final Payment: _____ days or dates
Contract Price incorporating this Change Order: $_____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for Final Payment: _____ days or dates

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____	By: _____	By: _____
Engineer (if required)	Owner (Authorized Signature)	Contractor (Authorized Signature)
Title: _____	Title _____	Title _____
Date: _____	Date _____	Date _____

Approved by Funding Agency (if applicable)

By: _____ Date:

Title: _____

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Field Order No. _____

Date of Issuance:	Effective Date:
Owner:	Owner's Contract No.:
Contractor:	Contractor's Project No.:
Engineer:	Engineer's Project No.:
Project:	Contract Name:

Contractor is hereby directed to promptly execute this Field Order, issued in accordance with General Conditions Paragraph 11.01, for minor changes in the Work without changes in Contract Price or Contract Times. If Contractor considers that a change in Contract Price or Contract Times is required, submit a Change Proposal before proceeding with this Work.

Reference: _____ Specification(s) _____ Drawing(s) / Detail(s)

Description:

Attachments:

ISSUED:	RECEIVED:
By: _____ Engineer (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Title: _____	Title: _____
Date: _____	Date: _____

Copy to: Owner

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InSite Engineering, LLC

Request **F**or **I**nformation **F**orm

Project Name: Mt. Alto - Water Transmission Main
Project Number: 16127.00
Owner Bid Number: 008-18

RFI Number	Submitted To	Submitted By	Copies To
	InSite Engineering, LLC 5800 Feldspar Way Hoover, AL 35244		
Date			

Subject	Discipline	Co-Author

Specification Section	Drawing Reference	

Information Requested (including suggest solution, if applicable):	Date Required:

Response

By responding to the RFI, we do not agree to any additional costs and/or time. Any additional costs and/or time shall be submitted in accordance with the requirements of the Contract Documents.

Date Answered: Answered By:

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SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Quality assurance.

B. Product substitution procedures.

1.2 QUALITY ASSURANCE

A. Contract is based on products and standards established in Contract Documents without consideration of proposed substitutions.

B. Products specified define standard of quality, type, function, dimension, appearance, and performance required.

C. Substitution Proposals: Permitted for specified products except where specified otherwise. Do not substitute products unless substitution has been accepted and approved in writing by Owner.

1.3 PRODUCT SUBSTITUTION PROCEDURES

A. Document 002113 - Instructions to Bidders specifies time restrictions for submitting requests for substitutions during Bidding period.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 012500

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INSITE ENGINEERING
WWW.INSITEENGINEERING.ORG

SECTION 012500.1 – SUBSTITUTION REQUEST FORM

GENERAL: Form shall be submitted via General Contractor to Engineer.

PROJECT TITLE AND NO. The City of Rome, Georgia
Mt. Alto - Water Transmission Main
Project No. 16127.00 (Owner Bid # 008-18)

TO: INSITE ENGINEERING, LLC
5800 Feldspar Way
Hoover, Alabama 35244
Telephone: 205.733.9696

THIS SUBSTITUTION REQUEST IS FOR: [ ] CAUSE [ ]
CONVENIENCE

ATTN: _____

DATE OF REQUEST: _____ DATE OF NOTICE TO PROCEED: _____

SPECIFIED ITEM: _____

Section _____ Paragraph _____

REASON FOR SUBSTITUTION: _____

PROPOSED SUBSTITUTE: (indicate manufacturer and model) _____

_____

Attach complete description, catalog, spec data, and laboratory tests.

1. Describe change to Contract Documents proposed substitute will require for its proper installation.

   _____

   _____

2. Will substitution affect electrical requirements, wiring, piping, equipment, systems, ductwork, etc. indicated in Contract Documents?
   ___ No ___ Yes; Explain: _____

   _____

3. Proposed substitution affects other trades. ___ No ___ Yes; Explain: _____

4. List all differences between proposed substitute and specified product/material: (noise, weight, power, size, gage, finishes, dimensions, etc.). Attach separate sheet if necessary.

5. List (on separate sheet) the availability of maintenance services and replacement materials for proposed substitution.

6. List (on separate sheet) company names, addresses, phone numbers and contact persons of fabricators and suppliers for proposed substitution.

7. Will substitution affect the construction schedule?
___ No ___ Yes; Explain _____

8. If the substitution request is accepted, it will result in: No cost impact _____

   Lower cost (How much) _____ Added cost (How much) _____

9. Are there any additional license fees and/or royalties pending on the proposed substitute. ___ No ___ Yes; Explain: _____

10. The undersigned certifies/agrees:
    - Same warranty/guarantee will be furnished for proposed substitute as for specified product.
    - Same maintenance service and source of replacement parts, as applicable, is available.
    - Payment will be made for changes to building design, including Architect/Engineer design, detailing and construction costs caused by the substitution.

    SUBMITTED BY: (Supplier or Subcontractor)

    Firm: _____

    Address: _____

    Name and Title of Person Signing: _____

Signature: _____

Telephone No.: _____ Date: _____

REVIEWED AND APPROVED for Subcontractor or Supplier by (General Contractor):

Firm: _____

Address: _____

Name and Title of Person Signing: _____

Signature: _____

Telephone No.: _____ Date: _____

11. ENGINEER'S REVIEW AND ACTION:

___ Accepted - Make submittals in accordance with Specification Section 01330.

___ Accepted as Noted - Make submittals in accordance with Specification Section 01330.

___ Rejected - Use specified materials.

___ Received too late - Use specified materials.

Signature: _____ Date: _____

Remarks: _____

_____

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SECTION 013000 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Coordination and Project conditions.

B. Preconstruction meeting.

C. Site mobilization meeting.

D. Progress meetings.

E. Preinstallation meetings.

F. Closeout meeting.

G. Alteration procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

A. Coordinate scheduling, submittals, and Work of various Sections of Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements with provisions for accommodating items installed later.

B. Verify that utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate Work of various Sections having interdependent responsibilities for installing, connecting to, and placing operating equipment in service.

C. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practical; place runs parallel with lines of building. Use spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

1. Coordination Drawings: Prepare as required to coordinate all portions of Work. Show relationship and integration of different construction elements that require coordination during fabrication or installation to fit in space provided or to function as intended. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are important.

D. Coordination Meetings: In addition to other meetings specified in this Section, hold coordination meetings with personnel and Subcontractors to ensure coordination of Work.

E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.

1.3 PRECONSTRUCTION MEETING

A. Engineer will schedule and preside over meeting after Contracts have been executed.

B. Attendance Required: Engineer, Owner, and Contractor.

C. Possible Agenda Items:

1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of Subcontractors, list of products, schedule of values, and Progress Schedule.
5. Designation of personnel representing parties in Contract, and Engineer.
6. Communication procedures.
7. Procedures and processing of requests for interpretations, field decisions, field orders**,** submittals, substitutions, Applications for Payments, proposal request, Change Orders, and Contract closeout procedures.
8. Scheduling.
9. Critical Work sequencing.
10. Scheduling activities

D. Engineer will Record minutes and distribute to participants within 2 days after meeting to Owner, Contractor, and those affected by decisions made.

1.4 SITE MOBILIZATION MEETING

A. N/A

1.5 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

B. Engineer will make arrangements for meetings, prepare agenda with copies for participants, and preside over meetings.

C. Attendance Required: Job superintendent, major Subcontractors, Contractors, and suppliers, and Engineer, owner, as appropriate to agenda topics for each meeting.

D. Probable Agenda Items:

1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems impeding planned progress.
5. Review of submittal schedule and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Maintenance of Progress Schedule.

8. Corrective measures to regain projected schedules.
9. Planned progress during succeeding work period.
10. Coordination of projected progress.
11. Maintenance of quality and work standards.
12. Effect of proposed changes on Progress Schedule and coordination.
13. Other business relating to Work.

E. Engineer will record minutes and distribute to participants within 2 days after meeting to owner, contractor, and those affected by decisions made.

1.6 PREINSTALLATION MEETINGS

A. When required in individual Specification Sections, convene pre-installation meetings at Project Site one (1) week before starting Work of specific Section.

B. Require attendance of parties directly affecting, or affected by, Work of specific Section.

C. Prepare agenda and preside over meeting:

1. Review conditions of installation, preparation, and installation procedures.
2. Review coordination with related Work.

D. Record minutes and distribute copies to participants within two (2) days after meeting, and those affected by decisions made.

1.7 CLOSEOUT MEETING

A. N/A – Final Inspection will be Scheduled by Engineer after completion.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.1 ALTERATION PROCEDURES

A. Work area will be within the existing water treatment plant. The Owner will be traversing the work area during progress of construction. Cooperate with Owner in scheduling operations to minimize conflict and to permit continuous usage.
1. Keep utility and service outages to a minimum and perform only after written approval of Owner.
2. Clean construction areas daily. Clean spillage, overspray, rock, dirt and any construction debris in work areas daily.

B. Materials: As specified in product Sections; match existing products with new products for patching and extending Work.

C. Employ skilled installer to perform alteration and renovation Work.

D. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

E. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

F. Remove debris and abandoned items from area and from concealed spaces.

G. Prepare surface and remove surface finishes to permit installation of new Work and finishes.

H. Close openings in exterior surfaces to protect existing Work from weather and extremes of temperature and humidity.

I. Remove, cut, and patch Work to minimize damage and to permit restoring products and finishes to new condition.

J. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with neat transition to adjacent finishes.

K. Where new Work abuts or aligns with existing Work, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.

L. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Architect/Engineer for review.

M. Where change of plane of ¼" or more occurs submit recommendations to the engineer on process for ensuring smooth transitions.

N. Trim existing doors to clear new floor finish. Refinish trim to original condition.

O. Patch or replace portions of existing surfaces that are damaged, lifted, discolored, or showing other imperfections.

P. Finish surfaces as specified in individual product Sections.

END OF SECTION 013000

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Definitions.

B. Submittal procedures.

C. Proposed product list.

D. Product data.

E. Use of electronic CAD files of Project Drawings.

F. Shop Drawings.

G. Samples.

H. Design data.

I. Test reports.

J. Certificates.

K. Manufacturer's instructions.

L. Manufacturer's field reports.

M. Erection Drawings.

N. Construction photographs.

O. Contractor review.

P. Architect/Engineer review.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action.

B. Informational Submittals: Written and graphic information and physical Samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.3 SUBMITTAL PROCEDURES

A. Transmit each submittal with Engineer-accepted forms**.**

B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.

C. Identify: Project, Contractor, Subcontractor and supplier, pertinent Drawing and detail number, and Specification Section number appropriate to submittal.

D. Apply Contractor's stamp, signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is according to requirements of the Work and Contract Documents.

E. Schedule submittals to expedite Project, and deliver to Engineer post electronic submittals as PDF electronic via email. It is the contractor's responsibility to ensure the submittal make it to the Engineer**.** Coordinate submission of related items.

F. For each submittal for review, allow 15 days excluding delivery time to and from Contractor.

G. Identify variations in Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.

H. Allow space on submittals for Contractor and Architect/Engineer review stamps.

I. When revised for resubmission, identify changes made since previous submission.

J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.

K. Submittals not requested will not be recognized nor processed.

L. Incomplete Submittals: Architect/Engineer will not review. Complete submittals for each item are required. Delays resulting from incomplete submittals are not the responsibility of Architect/Engineer.

1.4 PROPOSED PRODUCT LIST

A. Within 15 days after date of Notice to Proceed, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, indicate manufacturer, trade name, model or catalog designation, and reference standards.

1.5 PRODUCT DATA

A. Product Data: Action Submittal: Submit to Engineer for review for assessing conformance with information given and design concept expressed in Contract Documents.

B. Submit number of copies Contractor requires, plus Three copies Engineer will retain. (if submitting hard copies.

or

C. Electronic submittals as PDF electronic files to Engineer.

D. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

E. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

F. After review, produce copies and distribute.

1.6 ELECTRONIC CAD FILES OF PROJECT DRAWINGS

A. Electronic CAD Files of Project Drawings: May only be used to expedite production of Shop Drawings for the Project. Use for other Projects or purposes is not allowed.

B. Electronic CAD Files of Project Drawings: Distributed only under the following conditions:

1. Use of files is solely at receiver's risk. Architect/Engineer does not warrant accuracy of files. Receiving files in electronic form does not relieve receiver of responsibilities for measurements, dimensions, and quantities set forth in Contract Documents. In the event of ambiguity, discrepancy, or conflict between information on electronic media and that in Contract Documents, notify Architect/Engineer of discrepancy and use information in hard-copy Drawings and Specifications.
2. CAD files do not necessarily represent the latest Contract Documents, existing conditions, and as-built conditions. Receiver is responsible for determining and complying with these conditions and for incorporating addenda and modifications.
3. User is responsible for removing information not normally provided on Shop Drawings and removing references to Contract Documents. Shop Drawings submitted with information associated with other trades or with references to Contract Documents will not be reviewed and will be immediately returned.
4. Receiver shall not hold Architect/Engineer responsible for data or file clean-up required to make files usable, nor for error or malfunction in translation, interpretation, or use of this electronic information.
5. Receiver shall understand that even though Architect/Engineer has computer virus scanning software to detect presence of computer viruses, there is no guarantee that computer viruses are not present in files or in electronic media.
6. Receiver shall not hold Architect/Engineer responsible for such viruses or their consequences, and shall hold Architect/Engineer harmless against costs, losses, or damage caused by presence of computer virus in files or media.

C. Costs: $100 per file, plus administrative fee of $50 per request paid in advance by certified check or money order payable to Architect/Engineer.

1.7 SHOP DRAWINGS

A. Shop Drawings: Action Submittal: Submit to Architect/Engineer for assessing conformance with information given and design concept expressed in Contract Documents.

B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. When required by individual Specification Sections, provide Shop Drawings signed and sealed by a professional Engineer responsible for designing components shown on Shop Drawings.

1. Include signed and sealed calculations to support design.
2. Submit Shop Drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
3. Make revisions and provide additional information when required by authorities having jurisdiction.

D. Submit in form of one reproducible transparency or as an electronic .pdf.

E. After review, produce copies and distribute.

1.8 SAMPLES

A. Samples: Action Submittal: Submit to Architect/Engineer for assessing conformance with information given and design concept expressed in Contract Documents.

B. Samples for Selection as Specified in Product Sections:

1. Submit to Architect/Engineer for aesthetic, color, and finish selection.
2. Submit Samples of finishes, textures, and patterns for Architect/Engineer selection.

C. Submit Samples to illustrate functional and aesthetic characteristics of products, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.

D. Include identification on each Sample, with full Project information.

E. Submit number of Samples specified in individual Specification Sections; Engineer will retain 2 Sample.

F. Reviewed Samples that may be used in the Work are indicated in individual Specification Sections.

G. After review, produce copies and distribute.

1.9 DESIGN DATA

A. Informational Submittal: Submit data for Engineer's knowledge as Contract administrator or for Owner.

B. Submit information for assessing conformance with information given and design concept expressed in Contract Documents.

1.10 TEST REPORTS

A. Informational Submittal: Submit reports for Engineer's knowledge as Contract administrator or for Owner.

B. Submit test reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.11 CERTIFICATES

A. Informational Submittal: Submit certification by manufacturer, installation/application Subcontractor, or Contractor to Engineer, in quantities specified for Product Data.

B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

C. Certificates may be recent or previous test results on material or product but must be acceptable to Engineer.

1.12 MANUFACTURER'S INSTRUCTIONS

A. Informational Submittal: Submit manufacturer's installation instructions for Engineer's knowledge as Contract administrator or for Owner.

B. Submit printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing, to Engineer in quantities specified for Product Data.

C. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.13 MANUFACTURER'S FIELD REPORTS

A. Informational Submittal: Submit reports for Architect/Engineer's knowledge as Contract administrator or for Owner.

B. Submit report within 2 days of observation to Engineer for information.

C. Submit reports for information for assessing conformance with information given and design concept expressed in Contract Documents.

1.14 ERECTION DRAWINGS

A. N/A

1.15 CONSTRUCTION PHOTOGRAPHS

A. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer acceptable to Architect/Engineer.

B. Monthly submit photographs with Application for Payment.

C. Photopgraphs may be submitted on a disk.

D. Take photographs as evidence of existing Project conditions as follows:

1. Interior views:
2. Exterior views:

E. Digital Images: Deliver complete set of digital image electronic files on CD-ROM to Owner with Project record documents. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as sensor, uncropped.

1. Digital Images: Uncompressed TIFF format, produced by digital camera with minimum sensor size of 4.0 megapixels, and image resolution of not less than 1024 by 768 pixels.
2. Date and Time: Include date and time in filename for each image.

1.16 CONTRACTOR REVIEW

A. Review for compliance with Contract Documents and approve submittals before transmitting to Engineer

B. Contractor: Responsible for:

1. Determination and verification of materials including manufacturer's catalog numbers.
2. Determination and verification of field measurements and field construction criteria.
3. Checking and coordinating information in submittal with requirements of Work and of Contract Documents.
4. Determination of accuracy and completeness of dimensions and quantities.
5. Confirmation and coordination of dimensions and field conditions at Site.
6. Construction means, techniques, sequences, and procedures.
7. Safety precautions.
8. Coordination and performance of Work of all trades.

C. Stamp, sign or initial, and date each submittal to certify compliance with requirements of Contract Documents.

D. Do not fabricate products or begin Work for which submittals are required until approved submittals have been received from Architect/Engineer.

1.17 ENGINEER REVIEW

A. Do not make "mass submittals" to Engineer. "Mass submittals" are defined as six or more submittals or items in one day or 20 or more submittals or items in one week. If "mass

submittals" are received, Engineer's review time stated above will be extended as necessary to perform proper review. Engineer will review "mass submittals" based on priority determined by Engineer after consultation with Owner and Contractor.

B. Informational submittals and other similar data are for Engineer's information, do not require Engineer's responsive action, and will not be reviewed or returned with comment.

C. Submittals made by Contractor that are not required by Contract Documents may be returned without action.

D. Submittal approval does not authorize changes to Contract requirements unless accompanied by Change Order, Field Order, or Work Change Directive.

E. Owner may withhold monies due to Contractor to cover additional costs beyond the second submittal review.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION - Not Used

END OF SECTION 013300

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SECTION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Field engineering.

B. Closeout procedures.

C. Starting of systems.

D. Demonstration and instructions.

E. Testing, adjusting, and balancing.

F. Project record documents.

G. Operation and maintenance data.

H. Manual for materials and finishes.

I. Manual for equipment and systems.

J. Spare parts and maintenance products.

K. Product warranties and product bonds.

L. Examination.

M. Preparation.

N. Execution.

O. Cutting and patching.

P. Protecting installed construction.

Q. Final cleaning.

1.2 FIELD ENGINEERING

A. Employ land surveyor registered in State of Georgia and acceptable to Engineer.

B. Locate all and protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.

C. Control datum for survey is established on the drawings.

D. Prior to beginning Work, verify and establish floor elevations of existing facilities to ensure that new Work will meet existing elevations in smooth and level alignment except where specifically detailed or indicated otherwise.

E. Verify setbacks and easements; confirm Drawing dimensions and elevations.

F. Provide field engineering services. Establish elevations, lines, and levels using recognized engineering survey practices.

G. Submit copy of certificate signed by land surveyor certifying elevations and locations of the Work are in conformance with Contract Documents.

H. On completion of foundation walls and major Site improvements, prepare certified survey illustrating dimensions, locations, angles, and elevations of construction.

I. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.

J. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect/Engineer.

K. Final Property Survey: Prior to Substantial Completion, prepare final property survey illustrating locations, dimensions, angles, and elevations of buildings and Site Work that have resulted from construction indicating their relationship to permanent bench marks and property lines.

1. Show significant features (real property) for Project.
2. Include certification on survey, signed by surveyor, that principal metes, bounds, lines, levels, and elevations of Project are accurately shown.

1.3 CLOSEOUT PROCEDURES

A. Prerequisites to Substantial Completion: Complete following items before requesting Certification of Substantial Completion, either for entire Work or for portions of Work:

1. Submit maintenance manuals, Project record documents, digital images of construction photographs**,** and other similar final record data in compliance with this Section.
2. Complete facility startup, testing, adjusting, balancing of systems and equipment, demonstrations, and instructions to Owner's operating and maintenance personnel as specified in compliance with this Section.
3. Conduct inspection to establish basis for request that Work is substantially complete. Create comprehensive list (initial punch list) indicating items to be completed or corrected, value of incomplete or nonconforming Work, reason for being incomplete, and date of anticipated completion for each item. Include copy of list with request for Certificate of Substantial Completion.
4. Obtain and submit releases enabling Owner's full, unrestricted use of Project and access to services and utilities. Include certificate of occupancy, operating certificates, and similar releases from authorities having jurisdiction and utility companies.
5. Deliver tools, spare parts, extra stocks of material, and similar physical items to Owner.

6. Make final change-over of locks and transmit keys directly to Owner. Advise Owner's personnel of change-over in security provisions.
7. Discontinue or change over and remove temporary facilities and services from Project Site, along with construction tools, mockups, and similar elements.
8. Perform final cleaning according to this Section.

B. Substantial Completion Inspection:

1. When Contractor considers Work to be substantially complete, submit to Engineer:

    a. Written certificate that Work, or designated portion, is substantially complete.
    b. List of items to be completed or corrected (initial punch list).

2. Within 7 days after receipt of request for Substantial Completion, Engineer and Owner will make inspection to determine whether Work or designated portion is substantially complete.
3. Should Engineer determine that Work is not substantially complete:

    a. Engineer will promptly notify Contractor in writing, stating reasons for its opinion.
    b. Contractor shall remedy deficiencies in Work and send second written request for Substantial Completion to Engineer.
    c. Engineer will reinspect Work.
    d. Redo and Inspection of Deficient Work: Repeated until Work passes Engineer / Owners inspection.

4. When Engineer and Owner finds that Work is substantially complete, Engineer will:

    a. Prepare Certificate of Substantial Completion accompanied by Contractor's list of items to be completed or corrected as verified and amended by Engineer and Owner (final punch list).
    b. Submit Certificate to Owner and Contractor for their written acceptance of responsibilities assigned to them in Certificate.

5. After Work is substantially complete, Contractor shall:

    a. Allow Owner occupancy of Project under provisions stated in Certificate of Substantial Completion.
    b. Complete Work listed for completion or correction within time period stipulated.

C. Prerequisites for Final Completion: Complete following items before requesting final acceptance and final payment.

1. When Contractor considers Work to be complete, submit written certification that:

    a. Contract Documents have been reviewed.
    b. Work has been examined for compliance with Contract Documents.
    c. Work has been completed according to Contract Documents.
    d. Work is completed and ready for final inspection.

2. Submittals: Submit following:

a. Final punch list indicating all items have been completed or corrected.
b. Final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
c. Specified warranties, workmanship/maintenance bonds, maintenance agreements, and other similar documents.
d. Accounting statement for final changes to Contract Sum.
e. Contractor's affidavit of payment of debts and claims.
f. Contractor affidavit of release of liens.
g. Consent of surety to final payment.

3. Perform final cleaning for Contractor-soiled areas according to this Section.

D. Final Completion Inspection:

1. Within 7 days after receipt of request for final inspection, Engineer and Owner will make inspection to determine whether Work or designated portion is complete.
2. Should Engineer consider Work to be incomplete or defective:

a. Engineer will promptly notify Contractor in writing, listing incomplete or defective Work.
b. Contractor shall remedy stated deficiencies and send second written request to Engineer that Work is complete.
c. Engineer will reinspect Work.
d. Redo and Inspection of Deficient Work: Repeated until Work passes Engineer and Owner inspection.

1.4 STARTING OF SYSTEMS

A. Coordinate schedule for startup of various equipment and systems.

B. Notify Engineer 7 days prior to startup of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.

D. Verify that tests, meter readings, and electrical characteristics agree with those required by equipment or system manufacturer.

E. Verify that wiring and support components for equipment are complete and tested.

F. Execute startup under supervision of manufacturer's representative or Contractors' personnel according to manufacturer's instructions.

G. When specified in individual Specification Sections, require manufacturer to provide authorized representative who will be present at Site to inspect, check, and approve equipment or system installation prior to startup and will supervise placing equipment or system in operation.

H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

1.5 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of products to Owner's personnel 14 Days prior to date of Substantial Completion.

B. Demonstrate Project equipment and instructed by manufacturer's representative who is knowledgeable about the Project.

C. Video Recordings: Provide high-quality color video recordings of demonstration and instructional sessions. Engage commercial videographer to record sessions. Include classroom instructions, demonstrations, board diagrams, and other visual aids. Include menu navigation.

D. For equipment or systems requiring seasonal operation, perform demonstration for other season within 6 months.

E. Use operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

F. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time at equipment location.

G. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

1.6 TESTING, ADJUSTING, AND BALANCING

A. Owner will appoint, employ, and pay for services of independent firm to perform testing, adjusting, and balancing after initial contractor start up and adjustments.

1.7 PROJECT RECORD DOCUMENTS

A. Maintain on Site one set of the following record documents; record actual revisions to the Work:

1. Drawings.
2. Specifications.
3. Addenda.
4. Change Orders and other modifications to the Contract.
5. Reviewed Shop Drawings, product data, and Samples.
6. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress, not less than weekly.

E. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Product substitutions or alternates used.
3. Changes made by Addenda and modifications.

F. Record Drawings Legibly mark each item to record actual construction as follows:

1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
2. Include locations of concealed elements of the Work.
3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
5. Identify and locate existing buried or concealed items encountered during Project.
6. Measured depths of foundations in relation to finish main floor datum.
7. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
8. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
9. Field changes of dimension and detail.
10. Details not on original Drawings.

G. Submit marked-up paper copy documents to Engineer before Substantial Completion.

H. Submit PDF electronic files of marked-up documents to Architect/Engineer before Substantial Completion.

1.8 OPERATION AND MAINTENANCE DATA

A. Submit in PDF composite electronic indexed file.

B. Submit 3 data bound in 8-1/2 x 11-inch (A4) text pages, three D side ring binders with durable plastic covers.

C. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS," title of Project, and subject matter of binder when multiple binders are required.

D. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

E. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

F. Contents: Prepare table of contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:

1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect/Engineer, Contractor, Subcontractors, and major equipment suppliers.

2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Include the following:

    a. Significant design criteria.
    b. List of equipment.
    c. Parts list for each component.
    d. Operating instructions.
    e. Maintenance instructions for equipment and systems.
    f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
    g. Safety precautions to be taken when operating and maintaining or working near equipment.

3. Part 3: Project documents and certificates, including the following:

    a. Shop Drawings and product data.
    b. Air and water balance reports.
    c. Certificates.
    d. Originals of warranties.

1.9 MANUAL FOR MATERIALS AND FINISHES

A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect/Engineer will review draft and return one copy with comments.

B. For equipment or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.

C. Submit one copy of completed volumes before Substantial Completion. Draft copy be reviewed and returned, with Architect/Engineer comments. Revise content of document sets as required prior to final submission.

D. Submit 2 sets of revised final volumes within 10 days after final inspection.

E. Submit in PDF composite electronic indexed file of final manual within 10 days after final inspection.

F. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Include information for re-ordering custom-manufactured products**.**

G. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.

H. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Include recommendations for inspections, maintenance, and repair.

I. Additional Requirements: As specified in individual product Specification Sections.

J. Include listing in table of contents for design data, with tabbed fly sheet and space for insertion of data.

1.10 MANUAL FOR EQUIPMENT AND SYSTEMS

A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect/Engineer will review draft and return one copy with comments.

B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.

C. Submit one copy of completed volumes before Substantial Completion. Draft copy will be reviewed and returned, with Engineer comments. Revise content of document sets as required prior to final submission.

D. Submit 2 sets of revised final volumes within 10 days after final inspection.

E. Submit in PDF composite electronic indexed file of final manual within 10 days after final inspection.

F. Each Item of Equipment and Each System: Include description of unit or system and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and model number of replaceable parts.

G. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed by label machine.

H. Include color-coded wiring diagrams as installed.

I. Operating Procedures: Include startup, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shutdown, and emergency instructions. Include summer, winter, and special operating instructions.

J. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

K. Include servicing and lubrication schedule and list of lubricants required.

L. Include manufacturer's printed operation and maintenance instructions.

M. Include sequence of operation by controls manufacturer.

N. Include original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

O. Include control diagrams by controls manufacturer as installed.

P. Include Contractor's coordination drawings with color-coded piping diagrams as installed.

Q. Include charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.

R. Include list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.

S. Include test and balancing reports.

T. Additional Requirements: As specified in individual product Specification Sections.

U. Include listing in table of contents for design data with tabbed dividers and space for insertion of data.

1.11 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in quantities specified in individual Specification Sections.

B. Deliver to Project Site; obtain receipt prior to final payment.

1.12 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by responsible Subcontractors, suppliers, and manufacturers within 10 days after completion of applicable item of Work.

B. Execute and assemble transferable warranty documents and bonds from Subcontractors, suppliers, and manufacturers.

C. Verify documents are in proper form, contain full information, and are notarized.

D. Co-execute submittals when required.

E. Include table of contents and assemble in three D side ring binder with durable plastic cover.

F. Submit prior to final Application for Payment.

G. Time of Submittals:

1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
2. Make other submittals within 10 days after date of Substantial Completion, prior to final Application for Payment.
3. For items of Work for which acceptance is delayed beyond Substantial Completion, submit within 10 days after acceptance, listing date of acceptance as beginning of warranty or bond period.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that existing Site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new Work being applied or attached.

C. Examine and verify specific conditions described in individual Specification Sections.

D. Verify that utility services are available with correct characteristics and in correct locations.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance according to manufacturer's instructions.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer-required or -recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

3.3 EXECUTION

A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.

B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.

D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.
3. Exposed Joints: Provide uniform joint width and arrange to obtain best visual effect. Refer questionable visual-effect choices to Architect/Engineer for final decision.

E. Allow for expansion of materials and building movement.

F. Climatic Conditions and Project Status: Install each unit of Work under conditions to ensure best possible results in coordination with entire Project.

1. Isolate each unit of Work from incompatible Work as necessary to prevent deterioration.
2. Coordinate enclosure of Work with required inspections and tests to minimize necessity of uncovering Work for those purposes.

G. Mounting Heights: Where not indicated, mount individual units of Work at industry recognized standard mounting heights for particular application indicated.

1. Refer questionable mounting heights choices to Architect/Engineer for final decision.
2. Elements Identified as Accessible to Handicapped: Comply with applicable codes and regulations.

H. Adjust operating products and equipment to ensure smooth and unhindered operation.

I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.

3.4 CUTTING AND PATCHING

A. Employ skilled installers to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements affecting:

1. Structural integrity of element.
2. Integrity of weather-exposed or moisture-resistant elements.
3. Efficiency, maintenance, or safety of element.
4. Visual qualities of sight-exposed elements.
5. Work of Owner or separate contractor.

C. Execute cutting, fitting, and patching to complete Work and to:

1. Fit the several parts together, to integrate with other Work.
2. Uncover Work to install or correct ill-timed Work.
3. Remove and replace defective and nonconforming Work.
4. Remove samples of installed Work for testing.
5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.

E. Cut masonry and concrete materials using masonry saw or core drill.

F. Restore Work with new products according to requirements of Contract Documents.

G. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, or floor construction; completely seal voids.

I. At penetrations of fire-rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material to full thickness of penetrated element.

J. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.

K. Identify hazardous substances or conditions exposed during the Work to Architect/Engineer for decision or remedy.

3.5 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual Specification Sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.

C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

D. Use durable sheet materials to protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects.

E. Prohibit traffic or storage upon waterproofed or roofed surfaces. When traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

F. Prohibit traffic from landscaped areas.

3.6 FINAL CLEANING

A. Execute final cleaning prior to final Project assessment. Employ

1. Employ experienced personnel or professional cleaning firm.

B. Clean interior and exterior glass and surfaces exposed to view; remove temporary labels, stains, and foreign substances; polish transparent and glossy surfaces**;** and vacuum carpeted and soft surfaces.

C. Clean equipment and fixtures to sanitary condition with appropriate cleaning materials.

D. Replace filters of operating equipment.

E. Clean debris from roofs, gutters, downspouts, and drainage systems.

F. Clean Site; sweep paved areas, rake clean landscaped surfaces.

G. Remove waste and surplus materials, rubbish, and construction facilities from Site.

END OF SECTION 017000

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SECTION 329221 – LAWNS AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes seeding, sodding, and landscape replacement.

B. Landscape replacement work shall be performed in all disturbed areas and shall include, but not necessarily be limited to, all seed bed preparation; the supplying and placing of soil additives, seed, sod, and mulch wherever required by the drawings or directed by the Engineer.

1.2 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil. Refer to Division 1 Section "Earthwork" and "Excavation Support and Protection".

1.3 SUBMITTALS

A. Product Data: Refer to Division 1 Section "Submittal Procedures". For each type of product indicated.

B. Product certificates/certificates of inspection.

C. Planting Schedule: Indicating anticipated planting dates.

1.4 QUALITY ASSURANCE

A. No Substitutions: Do not make substitutions. Replace disturbed landscape materials with identical materials. If identical landscape material is not obtainable, submit proof of non-availability from a minimum of 6 suppliers to the Engineer for review by a Landscape Architect, together with proposal for use of equivalent material.

B. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Sod: Harvest, deliver, store, and handle sod according to requirements in TPI's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding."

1.6 JOB CONDITIONS

A. Proceed with the complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of turf areas required.

B. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand cultivate as required. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.

C. Planting Time: Plant or install materials during normal planting seasons for each type of landscape work required.

PART 2 - PRODUCTS

2.1 SEED

A. Seed Species: State-certified seed of grass species to match adjacent areas. In unplanted areas, as follows:
1. Warm Season (April 30-August 15): 100% hulled common bermuda, 2#/1000 sf.
2. Cool Season (March 1-April 30): or August 15-November 30): 100% Kentucky 31 tall fescue, 5#/1000 sf.
3. When seeding March 1 to April 1 or October 1 to November 30, add an additional 3 pounds per 1000 square feet of annual ryegrass.

2.2 TURFGRASS SOD

A. Turfgrass Sod: Approved, complying with TPI's "Specifications for Turfgrass Sod Materials" in its "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.

B. Turfgrass Species: To match disturbed area and/or adjacent yards.

2.3 PLANTING MATERIALS

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 2 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.
1. Topsoil Source: Reuse surface soil stockpiled on-site and supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient. Verify suitability of stockpiled surface soil to produce topsoil.

B. Inorganic Soil Amendments:
1. Lime: ASTM C 602, Class T or O, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent.

2. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, with a minimum 99 percent passing through No. 6 sieve and a maximum 10 percent passing through No. 40 sieve.
3. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
4. Aluminum Sulfate: Commercial grade, unadulterated.
5. Sand: Sharp, clean, washed sand, free of toxic materials.

C. Fertilizer:
1. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 1 percent nitrogen and 10 percent phosphoric acid.
2. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
3. Commercial Fertilizer: Complete fertilizer of neutral character furnished in standard containers that are clearly marked with the name, weight, and guaranteed analysis of the contents and that ensure proper protection in transportation and handling; and in compliance with all local, state, and federal fertilizer laws, with some elements derived from organic sources and containing recommended percentages of available plant nutrients.
4. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
   a. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

D. Mulches:
1. Straw Mulch for Seeding Operations: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
2. Filtration/Separation Fabric: Water permeable filtration fabric of fiberglass or polypropylene fabric.
3. Mulch and Erosion Control Matting and Blankets for Slopes:
   a. Curlex blanket excelsior blanket.
   b. Hi-Velocity curlex blanket excelsior blanket by American Excelsior Company, P.O. Box 5067, Arlington, Texas 76011.
4. Erosion Control Matting and Blankets for Ditches and Drainage Channels:
   a. Enkamat Matting #7020 by AZKO Industrial Systems, Ridgefield Business Center, Suite 18, Asheville, North Carolina 28802.
   b. Miramat 1000 by Mirafi, Inc., P.O. Box 240967, Charlotte, North Carolina 28224.
5. Straw Mulch for Landscaping Restoration: Provide air-dry, clean, mildew- and seed-free, pine straw.
6. Bark Mulch for Landscaping Restoration: Provide bark mulch as required to match adjacent areas.

2.4 PLANTING SOIL MIX

A. Planting Soil Mix: Submit proposed topsoil test results for approval.

PART 3 - EXECUTION

3.1 LAWN PREPARATION

A. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches. Remove stones larger than 2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

B. Surface Preparation::
1. Loosen surface soil to a depth of at least of 6 inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 4 inches of soil. Till soil to a homogeneous mixture of fine texture.
2. Remove stones larger than 2 inches in any dimension and sticks, roots, trash, and other extraneous matter.
3. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.

C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted within 2 days.

D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

E. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

3.2 SEEDING

A. Rake seed lightly into top 1/8 inch of topsoil, roll lightly, and water with fine spray.

B. Protect all seeded areas by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.

C. Hydroseeding New Lawns:
1. 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.
2. Apply slurry uniformly to all areas to be seeded. Rate of application as required to obtain specified seed sowing rate above.

3.3 SODDING

A. Sodding New Lawns:
1. Lay sod within 72 hours from time of stripping. Do not plant dormant sod or if ground is frozen.
2. Lay sod between March 1 and October 15 only unless soil conditions are favorable and written permission is obtained from the Engineer.
3. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; to 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 of adjacent grass. Lay sod on slopes with short dimension running up and down.

4. Anchor sod on slopes, 3:1 or greater and in drainage swales to prevent slippage, with 1 by 2 wood pegs driven flush with sod.
5. Saturate sod with fine water spray within two hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.
6. Two weeks after the sod is installed, top dress and thoroughly water it. Top dressing shall consist of the following:
   a. 1/2 to 1 pound: 38 percent urea formaldehyde per 1,000 square feet
   b. 20 pounds: 6-12-12 per 1,000 square feet
7. No equipment, material storage, construction traffic, etc., will be permitted on newly sodded areas.
8. Dispose of all surplus material off site.

3.4 CLEANUP AND PROTECTION

A. During landscape work, keep pavements clean and work area in an orderly condition.

B. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed.

END OF SECTION 329221

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SECTION 331415 - HDPE PIPING

PART 1 -

1.1 PURPOSE

A. These Specifications describe products to be incorporated into the water lines and requirements for the installation and use of these items. The Contractor/Developer shall furnish all products and perform all labor necessary to fulfill the requirements of these Specifications. The word "Division" used herein shall mean the Water and Sewer Division of the City of Rome, Georgia

1.2 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: For piping and specialties including relation to other services in same area, drawn to scale. Show piping and specialty sizes and valves, meter and specialty locations, and elevations. **OWNER MUST REVIEW DRAWINGS FOR METER INSTALLATION AND CONNECTIONS PRIOIR TO APPROVAL.**

B. Manufacturer's Certificate: Products meet or exceed specified requirements.

C. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

D. Preconstruction Photographs: Digital files of photographs of Work areas and material storage areas.

1.3 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with requirements of The City of Rome, Georgia Standard Water Line Specifications. Include tapping of water mains and backflow prevention.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:

1. Ensure that valves are dry and internally protected against rust and corrosion.
2. Protect valves against damage to threaded ends and flange faces.
3. Set valves in best position for handling. Set valves closed to prevent rattling.

B. Storage: Use precautions for valves, including fire hydrants, according to the following:

1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.

2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
3. Store materials according to manufacturer instructions.
4. Block individual and stockpiled pipe lengths to prevent moving.
5. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
6. Store PE materials out of sunlight.

C. Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 PE PIPE AND FITTINGS

A. PE, AWWA Pipe: AWWA C906, DR No. 7.3, 9, or 9.3; with PE compound number required to give pressure rating not less than 200 psig.

1. PE, AWWA Fittings: AWWA C906, socket- or butt-fusion type, with DR number matching pipe and PE compound number required to give pressure rating not less than 200 psig.

2.2 CORPORATION VALVES AND CURB VALVES

A. Service-Saddle Assemblies: Comply with AWWA C800. Include saddle and valve compatible with tapping machine.

2.3 EXAMINATION

A. Verify that existing utility water main size, location, and invert are as indicated.

2.4 PREPARATION

A. Pipe Cutting:

1. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs.
2. Use only equipment specifically designed for pipe cutting; use of chisels or hand saws is not permitted.
3. Grind edges smooth with beveled end for push-on connections.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare pipe connections to equipment with flanges or unions.

2.5 PIPING APPLICATIONS

A. General: Use pipe, fittings, and joining methods for piping systems according to the following applications.

B. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.

C. Underground water-service piping NPS 3/4 to NPS 3 shall be the following:
   1. PE, ASTM pipe; molded PE fittings; and heat-fusion joints.

D. Underground water-service piping NPS 4 to NPS 8 shall be the following:
   1. PE, AWWA pipe; PE, AWWA fittings; and heat-fusion joints.

2.6 PIPING INSTALLATION

A. Install PE pipe according to ASTM D 2774 and ASTM F 645.

2.7 JOINT CONSTRUCTION

A. Make pipe joints according to the following:
   1. PE Piping Insert-Fitting Joints: Use plastic insert fittings and fasteners according to fitting manufacturer's written instructions.

B. Prepare reports of purging and disinfecting activities.

END OF SECTION 331413

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THE CITY OF
ROME, GEORGIA

WATER AND SEWER DIVISION

MT. ALTO - WATER TRANSMISSION MAIN

OWNER BID # 008-18
PROJECT NUMBER 16127.00

APPENDIX "A"

THE CITY OF ROME, GEORGIA WATER AND SEWER DIVISION STANDARD WATER LINE SPECIFICATIONS

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STANDARD WATER LINE SPECIFICATIONS

CITY OF ROME, GEORGIA

EFFECTIVE DATE JUNE 23, 2009

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APPENDIX B - GRASSING SPECIFICATIONS

WATER LINE SPECIFICATIONS

1.01 - PURPOSE: These Specifications describe products to be incorporated into the water lines and requirements for the installation and use of these items. The Contractor/Developer shall furnish all products and perform all labor necessary to fulfill the requirements of these Specifications. The word "Division" used herein shall mean the Water and Sewer Division of the City of Rome, Georgia.

1.02 - GENERAL: All contractors installing water lines to be accepted onto maintenance by the City of Rome shall possess a valid utility contractors license issued by the State of Georgia and shall provide proof thereof to the City of Rome prior to the commencement of any work. 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. If requested by the Division, submit evidence that manufacturers have consistently produced products of satisfactory quality and performance for a period of at least two years. By reference, the “Rules for Safe Drinking Water”, latest revision, as established by the Georgia Department of Natural Resources, Environmental Protection Division shall also apply as though incorporated into these Specifications. All land disturbing activities shall be in full compliance with the Manual for Erosion and Sediment Control in Georgia, latest revision, and Best Management Practices.

1.03 - CONSTRUCTION DRAWINGS: The term construction drawings shall mean drawings, prints, descriptive literature, test reports, samples, calculations, schedules, material lists, and information and items of similar meaning.

(a) Submittals Required: The Contractor/Developer shall furnish to the Division for review in accordance with the procedure outlined below, drawings and descriptive literature for all manufactured or fabricated products. Additional information such as special drawings, schedules, calculations and curves, shall be provided as specifically requested by the Division.

(b) Contractor/Developer's Review: The Contractor/Developer shall review and check drawings and submittals. He shall indicate his approval by initials and date. The Contractor/Developer shall furnish the Division with a minimum of three copies of all submittals. A transmittal form shall accompany each submittal or group of submittals.

(c) Division's Review: All submittals will be reviewed, stamped, and dated by the Division before they are returned to the Contractor/Developer.

Acceptable submittals will be approved in writing with one copy returned to the Contractor/Developer and the remaining copies retained by the Division.

Submittals requiring minor corrections before being acceptable will be so noted. Drawings must be resubmitted for review and approval prior to installation or use of products.

(d) Drawings For Construction: Drawings or other submittals not bearing the Division's approval notation shall not be issued to subcontractors or utilized for construction purposes. The Contractor/Developer shall maintain at the job site a complete set of construction drawings bearing the Division's approval.

(e) Valve Location Sketches: The location of all valves installed shall be accurately referenced to at least two permanent landmarks which will not be removed or disturbed during construction. The Contractor\Developer shall provide valve location sketches similar to the example shown in Appendix 'A' of these specifications to the Division.

(f) As-Constructed Survey: The Contractor/Developer shall provide the City of Rome with and as-constructed survey of all water system improvements. This survey shall show the horizontal location of all valves, meters, fire hydrants, water mains and conduits.

1.04 - MATERIALS: Furnish all pipe, fittings, valves, tapping sleeves and valves, hydrants, and all other materials required for completion of the work. Pipes and fittings must not contain more than 8.0% lead, and solders and flux must not contain more than 0.2% lead. Furnish materials in accordance with the following:

(a) Ductile Iron Pipe (DIP): Ductile iron pipe shall conform to AWWA C151 and shall be a minimum of Class 50. All ductile iron pipe 20-inch diameter and smaller shall have a rated working pressure of 350 psi. Pipes larger than 20-inch diameter shall have a rated working pressure of 300 psi. Sizes will be as shown on the Drawings with the minimum allowable size being 8 inches. Pipe and fittings shall be cement lined in accordance with AWWA C104. Fittings shall conform to AWWA C110 with rated working pressure of 250 psi. Pipe shall be furnished with a bituminous outside coating.

Joints shall be push-on type for pipe and standard mechanical or flanged joints for fittings. Push-on and mechanical joints shall conform to AWWA C111. Restrained joint pipe (RJP) shall be either the bolted joint type or modified push-on type with joint restraint using ductile iron components. Restrained joint pipe on piers shall have bolted joints and shall be specifically designed for clear spans of at least 20 feet. Restrained joint pipe where required shall be American Zinc Coated.

Provide the appropriate gaskets for mechanical or flange joints. Gaskets for flange joints shall be made of 1/8-inch thick cloth reinforced rubber; gaskets may be ring type or full-face type.

Provide the necessary bolts for mechanical or flange connections. Bolts for flange connections shall be stainless steel with American Regular unfinished square or hexagon heads. Nuts shall be stainless steel with American Standard Regular hexagonal dimensions, all as specified in ANSI B 17.2. All bolts and all nuts shall be threaded in accordance with ANSI B 1.1, Coarse Thread Series, Class 2A and 2B fit.

All pipes shall be furnished in lengths of at least 18 feet. Acceptance will be in the basis of the Division's inspection and the manufacturer's written certification that the pipe was manufactured and tested in accordance with the applicable standards.

All fittings shall be of cast or ductile iron meeting the requirements of AWWA C110 with rated working pressure of 250 psi. Fittings shall be cement lined in accordance with AWWA C104.

Fittings shall be seal coated with a fusion bonded epoxy in accordance with ANSI/AWWA C-116/A21.16. Tees at fire hydrants shall be approved anchor tees. (DOMESTIC FITTINGS ONLY)

(b) Polyvinyl Chloride Pipe (PVC): When approved for use by the Division, PVC pipe shall have belled ends for push-on type jointing with elastomeric gasket seals and shall conform to AWWA C900, for cast-iron pipe equivalent OD's. The pipe shall have a Dimension Ratio (SDR) of 18 and shall be capable of withstanding a working pressure of 250 psi.

Pipe shall be supplied in lengths of at least 20 feet.

All fittings shall be of cast or ductile iron meeting the requirements of AWWA C110 with rated working pressure of 250 psi. Fittings shall be cement lined in accordance with AWWA C104.

Fittings shall be seal coated with a fusion bonded epoxy in accordance with ANSI/AWWA C-116/A21.16. Tees at fire hydrants shall be approved anchor tees. (DOMESTIC FITTINGS ONLY)

A detectable wire trace or detection tape shall be installed over all PVC water mains. Wire trace shall be copper strand Type 12-19, MTW, THHN, or THWN. Detection tape shall be detectable Mylar encased aluminum foil marking tape and shall be installed 1' above the top of pipe. Tape will be blue in color, at least 2-inches wide, and shall bear the printed identification "Caution: Water Line Buried Below". Detection tape shall be equal to Blackburn Mfg. Co. detectable underground warning tape.

Acceptance will be on the basis of the Division's inspection and the manufacturer's written certification that the pipe was manufactured and tested in accordance with the applicable standards. All plastic water pipes and service lines must bear the National Sanitation Foundation (NSF) seal of approval for potable water use.

(c) Gate Valves (GV): Gate valves with diameters 4 inches and larger shall be resilient seat, wedge-type conforming to the requirements of AWWA C509, and with geared operators, where required. All valves shall have a minimum rated working pressure of 250 psi.

Valves shall have a smooth, full diameter waterway with no recesses to trap debris or obstruct flow.

Valve ends shall be mechanical joint type with set screw type retainer glands except where flanged ends are required.

Valves shall open left and shall have o-ring type stem seals. Valve shall be designed so that upper o-ring stem seals can be replaced while the valve is fully open and under pressure.

Buried valves shall be equipped with valve boxes as shown in Appendix A. Provide extension stem where required. Bolts for extension stems shall be all stainless steel.

Valves located outside of roadway right of way shall be marked with a witness post as shown in Appendix A.

Valves located within the right of way shall be marked with a concrete valve marker as shown in Appendix A.

Valves, including geared valves, shall be non-rising stem type.

Gate valves shall be manufactured by American Ductile Iron Pipe, Mueller, or Griffin.
(d) Butterfly Valves: All butterfly valves shall be tight-closing rubber seated type. Valves shall close tight at the rated pressures with flow in either direction. Valve discs shall rotate 90 degrees from the fully open to fully shut position and shall meet the requirements of AWWA C504.

Valve ends shall be mechanical joint type with set screw type retainer glands except where flanged ends are required.

Valve operators shall be designed to hold the valve in any intermediate position without creeping or fluttering.

Manual valve operators shall be of the worm gear or traveling nut type, and shall be fully enclosed. Units shall be fully gasketed and grease packed.

Buried valves shall be furnished with ground level valve position indicators.

Valves shall open left.

(e) Backflow Preventers: All backflow prevention shall be installed to be in full compliance with the City of Rome Cross Connection Protection Plan. This plan is available through the Division. All backflow preventers shall be installed as close as possible to the water supply. All development shall be classified as on of three risk groups. Section 3 of the Cross Connection Protection Plan provides examples and basic descriptions of each Risk Group. The classification of a development will relate to potential risks, dependent upon internal processes, rather than the general category of the business or industry. The Director of the City of Rome Water Department shall make this determination.

(1) Backflow preventers for those developments classified as Risk Group I shall be the reduced pressure type providing protection during the emergency conditions of either back-siphonage or backpressure or a combination of both. Backflow preventers shall be certified by a nationally recognized testing laboratory as conforming to current requirements of ASSE 1013, AWWA C506, or USC-FCCC. The installation shall meet all applicable State and local codes.

Sizes 3/4-inch through 2-inch shall have bronze bodies with threaded connections and bronze union on either side of the device.

Sizes 2-1/2 inch and larger shall be bronze or iron bodied with corrosion resisting moving parts and trim and flange connections.

The device shall be equipped with three leak-proof test cocks. A fixed air gap, or funnel, shall be installed at the relief port. A drain line shall be piped from the discharge side of the air gap and shall be supported independently from the device.

An auxiliary check valve and strainer shall be installed upstream of the device. Gate valves shall be installed upstream and downstream of the device.

Backflow preventers shall be manufactured by Watts (no. 909 Series), Hersey, or Conbraco.

All reduced pressure zone backflow preventers shall be installed above grade.

(2) Backflow preventers for those developments classified in Risk Groups II and III shall be of the dual check valve type providing protection during the emergency conditions of either back-siphonage or backpressure or a combination of both. Backflow preventers shall be certified by a nationally recognized testing laboratory as conforming to current requirements of ASSE 1024 and CSA B64.6. The installation shall meet all applicable State and local codes.

The device shall be equipped with three test ports that allow testing while the valve is in line.

Backflow preventers shall be manufactured by Conbraco (Series 40-300), Watts, Hersey, or equal.

(3) Backflow preventers used on fire protection systems shall of the double check detector type. Fire protection system backflow preventers shall be installed in accordance with the American Water Works Association (AWWA) Guidelines on Fire Prevention Installations.

Backflow preventers shall be manufactured by Watts (Series 770DCDA), Hersey, or Conbraco.

(f) Corporation Stops: Corporation stops shall be ground key type; shall be made of bronze conforming to ASTM B 61 or B 62; and shall be suitable for the working pressure of the system. Ends shall be suitable for solder-joint, flanged lead joint or flared tube compression type joint. Threaded ends for inlet and outlet of corporation stops shall conform to AWWA C 800; coupling not for connection to flared copper tubing shall conform to ANSI b16.26.

(g) Valve Boxes (VB): All gate valves shall be equipped with valve boxes. Valve boxes shall be heavy roadway type. The valve boxes shall be cast iron two-piece slip or screw type with drop covers. The valve boxes shall be adjustable to 6 inches up or down from the nominal required cover over the pipe. Typical valve box details are included in the Appendix.

(h) Valve/Backflow Preventer Pits: All valve assemblies and backflow preventers installed underground shall be installed in a vault. The valve pit shall be sized and shall include adequate means for replacement or maintenance to components. Designs for all valve pits shall be approved by the Division.

(i) Meter Boxes: All new service meters, curb stops, and backflow preventers shall be installed inside a meter box. Meter boxes shall be sized according to the size of the components used. All meter boxes for 2" diameter and larger meters must be approved by the Division.

Meter boxes installed outside of paved areas and driveways shall be constructed of High Density Polyethylene (HDPE) and shall have a cast iron lid. These boxes shall be manufactured by D.F.W., Carson-Brooks, or equal.

All meter boxes installed in paved areas or driveways shall be constructed of all cast iron. These boxes shall be manufactured by Opelika, Higgins or equal.

(j) Tapping Sleeves and Valves (TS&V): Tapping sleeves when approved for use by the Division shall be of the splitsleeves, mechanical joint type. 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 branch pipe shall have set-screw retainer glands. The necessary bolts, glands, and gaskets shall be furnished.

(k) Repair Clamps: All repair clamps and associated nuts and bolts shall be all stainless steel. No repair clamps are permitted on new lines.

(l) Fire Hydrants (FH): All fire hydrants shall conform to the requirements of AWWA C502 for 250-psi working pressure. Hydrants shall be the compression type, closing with line pressure. Hydrants serving commercial or industrial areas shall have a valve opening not less than 4-1/2 inches and shall open left. Hydrants serving rural and residential areas shall have a valve opening not less than 4-1/2 inches and shall open left.

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.

The means for attaching the barrel to the standpipe shall permit facing the hydrant a minimum of eight different directions.

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.

All working parts, including the seat ring shall be removable through the top without disturbing the barrel of the hydrant.

The operating nut shall be 5-sided with a 7/8-inch face. 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 oil reservoir. A stop nut shall be positioned in the top operating mechanism so that the valve cannot contact the bottom of the shoe when fully open.

Hydrant shall be a non-freezing design and provided with a simple, positive, and automatic drain, which shall be fully closed whenever the main valve is opened.

Hose and pumper connections shall be breech-locked, pinned, and then caulked with lead; or threaded and pinned, to seal them permanently into the hydrant barrel. Each hydrant shall have two 2-1/2 inch hose connections with Rome Standard thread connections, as shown in the Appendix, and one 4-inch pumper connection with National Standard thread connection. Provide each connection with a cap and chain.

Hydrants shall be furnished with a mechanical joint shoe connection to the spigot of the 6-inch hydrant lead. Minimum depth of bury shall be 3.5 feet with the "bury line" at ground level. Provide extension section where necessary for vertical installation and in accordance with manufacturer's recommendations.

All outside surfaces of the barrel above grade and the bonnet shall be painted OSHA Safety Yellow (7-757) as manufactured by Gillman Industries.

Hydrants shall be furnished with flow charts showing flow in gallons per minute versus friction loss.

Hydrants shall be Mueller Centurion.

1.05 - HANDLING MATERIALS:

(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.

(b) Handling: Handle pipe, fittings, valves and accessories carefully to prevent shock or damage. Handle pipe by rolling on skids, forklift, or front loader. Do not use material damaged in handling.

(c) Distribution: Distribute and place pipe and materials to not interfere with traffic. Do not string pipe more than 1,000 feet beyond the area where pipe is being laid. Do not obstruct drainage ditches.

(d) Storage: Store all pipe which cannot be distributed along the route. Make arrangements for the use of suitable storage areas.

1.06 - CONSTRUCTION ALONG HIGHWAYS, STREETS, AND ROADWAYS: Install pipe lines and accessories along highways, streets and roadways in accordance with the applicable regulations and permits of the City of Rome, Floyd County and/or the Department of Transportation with reference to construction operations, safety, traffic control, road maintenance and repair. All signage, barricades, and other traffic controls shall be installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) latest revision.

(a) Protection of Traffic: Provide and maintain suitable signs, barricades and lights for protection of traffic. Replace all highway signs removed for construction as soon as possible. Do not close or block any highway, street, or roadway without first obtaining permission from the proper authorities.

Provide flagmen to direct and expedite the flow of traffic. All flagmen must be certified by the Georgia Department of Transportation.

(b) Construction Operations: Perform all work along highways, streets and roadways to least interfere with traffic.

(1) Stripping: Where the pipe line is laid along road shoulders, strip and stockpile all sod, topsoil and other material suitable for shoulder restoration.

(2) 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.

(3) Shaping: Reshape damaged slopes, side ditches, and ditch lines immediately after completing backfilling operation. Replace topsoil, sod and any other materials removed from shoulders.

(c) Excavated Materials: Do not place excavated material along highways, streets and roadways in a manner, which obstructs traffic. Sweep all scattered excavated material off the pavement.

(d) Drainage Structures: Keep all side ditches, culverts, cross drains, and other drainage structures clear of excavated material and free to drain at all times.

(e) Maintaining Highways, Streets, Roadways and Driveways: Maintain streets, highways, and roadways in suitable condition for movement of traffic until completion and final acceptance of the work. Use steel running plate to maintain traffic until pavement replacement is completed.

Repair all driveways that are cut or damaged immediately. Maintain them in a suitable condition for use until completion and final acceptance of the work.

1.07 - CLEARING: Where limits of clearing are shown on the Drawings, all trees, growth, debris, stumps and other objectionable matter shall be removed before trenching. Clearing of the construction easement is permitted with special care taken to adhere to the requirements of Sections 21, 22 and 23 of these specifications.

1.08 - EXCAVATION: Excavate all materials encountered, including rock, and dispose of excess excavated material not required for backfilling. Perform all excavation in accordance with applicable local, state, and federal regulations, including those authorized by the Occupational Safety and Health Act (OSHA), as amended.

(a) Depth of Trenches: Excavate trenches to provide a minimum cover of 42-inches. Within the right-of-way of highways, streets, or roadways, excavate to place the top of the pipe a minimum of four feet below the nearest pavement edge.

(b) Width of Trenches: Excavate trenches wide enough to allow proper installation of pipe, fittings, and other materials, and not less than 12 inches clear of the outside barrel of the pipe on any side at any point.

(c) Bell Holes: At each joint, excavate bell holes of ample depth and width to permit the joint to be made properly and to relieve pipe bell of any load.

(d) Earth Excavation: Excavate and prepare the trench bottom to support the pipe uniformly throughout its length.

For ductile iron pipe, the trench shall meet all requirements of Standard Laying Condition Type 2 in accordance with AWWA C151.

If the trench is excavated to excessive width or depth, provide crushed stone meeting the requirements of Georgia DOT Specification 800.01 for No. 57 stone to achieve Standard Laying Condition Type 4 in accordance with AWWA C151.

(e) Rock Excavation:

(1) Definition of Rock: Any material which cannot be excavated with a backhoe and occupying an original volume of at least one-half cubic yard.

(2) Excavation: Where rock is encountered, excavate to the minimum depth and width, which will provide 6 inches clearance beyond the outside diameter of the pipe bell.

(3) Blasting: Blasting operations shall be conducted in strict accordance with all applicable ordinances and regulations. All exposed structures shall be carefully protected from the effects of blast and all blasts shall be covered with heavy timbers or other suitable material. The Contractor shall limit amounts of explosives and timing of blasts to minimize noise and concussion and to prevent damage to existing structures, pavements and utilities. The blasting shall be done only by experienced men. Damages shall be promptly repaired by the Contractor

at his own expense. No blasting will be permitted adjacent to existing buildings and structures. Rock at those locations shall be removed with jack hammers and bull-points. If rock is encountered that requires removal by blasting the Contractor shall retain and employ a qualified blasting consulting Engineer, approved by the owner, to supervise the work. The Blasting Engineer's duties shall be to advise the blaster of hole spacing and loading and to make seismic and concussion measurements. The Contractor shall cooperate with the Blasting Engineer by uncovering and exposing pipe and structures for instrument mounting. The contractor shall also advise the Owner when each shot is ready and how it is loaded. No loaded holes shall be left unattended at any time for any reason. All blasting shall be done during daylight hours.

(1) Blasting and Ordinances: All blasting operations shall be conducted in strict accordance with existing ordinances and regulations, and shall be done only with the Blasting ENGINEER'S APPROVAL AND UNDER ENGINEER'S SUPERVISION.

(2) Protection of Surroundings: All exposed structures shall be protected from the effects of blasts and all blasts shall be covered with blasting mats, dirt, heavy timbers, or other suitable material. They shall be restricted to the extent that no appreciable shock will be transmitted to existing structures, pipe lines, sewers, or 312333-5 Trench Excavation and Backfill other public or private facilities. The blasting shall be done by experienced personnel. Any damage done shall be promptly repaired by the Contractor at the Contractor's expense.

(3) Storage of Blasting Supplies: All blasting supplies shall be stored in a magazine which complies with all Local, State, and Federal Laws, and a watchman shall be stationed at all times at the place of storage. In no case shall caps or other exploders be kept at the place where dynamite or other explosives are kept.

(4) Delay of Shots: All shots shall be delayed so as to minimize ground vibrations with a maximum peak particle velocity, as measured to the nearest structure (embankment, pipes, etc.) not to exceed 2 inches per second. The overpressure noise or concussion shall be minimized and stemming and matting shall be used to prevent over pressure in excess of 120 db. Precautions shall be taken to minimize flying rock and sufficient matting used to prevent rocks from striking any person or structure.

(5) Vibration Recording instruments: Vibration recording instruments shall be used on all shots. These shall be of type which records on direct reading tape the three (3) components of velocity. The analysis of these recordings is to be signed by a Registered Professional Engineer in Georgia. Blasting is not to be conducted which will produce a Scaled Distance less than previously recorded for at least three (3) different shots deemed to be safe. The scaled distance is to be determined by the distance from the shot to the nearest structure subject to potential damage from ground vibration.

(6) Overpressure: (Concussion) Overpressure is to be recorded on direct recording tape, preferable on the same recording as the vibration. The instrument used for measuring concussion shall be the type specifically designed for impact-type overpressure from blasting.

(7) Record of Shots: The blaster is to maintain an accurate log of each shot, listing as a minimum the following: date, time, weather conditions including temperature

and humidity, station number, manufacture and type of explosive, method of detonation, total weight of explosive per shot, number of delays, number of holes, hole depth, maximum weight of explosives per delay, amount of explosives per hole number, amount of stemming, type and amount of blast matting, and a sketch of the hole pattern with hole number for each shot.

(4) Removal of Rock: Do not use excavated rock as backfill material. Dispose of rock, which is surplus or not suitable for use as rip rap.

(f) Creek and Channel Crossings: When crossing creeks, channels or other surface waters, excavate the trench to provide a minimum cover of two feet. Pipe shall be ductile iron restrained joint pipe and shall be encased in concrete. River crossings must be approved by the City of Rome in addition to any other federal, state, and local requirements.

1.09 - EXISTING UNDERGROUND UTILITIES AND OBSTRUCTIONS: It is the responsibility of the Contractor/Developer to locate all existing utilities along the path of his construction and to properly notify the Utilities Protection Center. Drawings shall indicate underground utilities or obstructions that are known to exist. Where these or unforeseen underground utilities are encountered, the location and alignment of the water main may be changed, upon written approval of the Division, to avoid interference.

A horizontal separation of at least 10 feet must be maintained between the water main and existing or proposed sewers. When water mains cross sewers, a minimum vertical separation of 18 inches must be provided between the two (2) pipes (measured edge to edge). At crossings, one full length of water pipe must be located so that both joints are as far from the sewer as possible.

1.10 - LAYING AND JOINTING PIPE AND FITTINGS: Lay all pipe and fittings to accurately conform to the lines and grades approved by the Division as follows:

(a) Handling: Use suitable tools and equipment to handle and lay pipe. Prevent damage to the pipe and the cement lining. Examine all pipe carefully for cracks and other defects as it is laid. Do not lay pipe or other materials, which are known to be defective.

Lower pipe, fittings, valves, and accessories into the trench by suitable means. Do not drop or dump pipe or accessories into the trench.

Clean pipe and fittings thoroughly before laying. Keep the pipe line clean until final acceptance.

If any pipe or other material is discovered to be defective or damaged after being laid, remove and replace it.

(b) Alignment and Gradient: Lay pipe straight in alignment and gradient or follow true curves as nearly as practicable. Do not deflect any joint more than 2/3 the maximum deflection recommended by the manufacturer.

Maintain a transit and accessories on the job to lay out angles and ensure that deflection allowances are not exceeded.

(c) 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. Plug 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, close the end with a mechanical joint plug.

(d) Laying Pipe in Trenches: Lay the pipe with solid bearing throughout its length.

(1) Earth Trenches: Grade the bottom of the trench to a true line. Lay the pipe in clean bedding material, free of rock, organics, and other unsuitable materials.

(2) Rock Trenches: Bed the pipe in at least six inches of clay or granular bedding material. Backfill with the same material to at least two feet above the pipe.

(3) Wet Trenches: Do not lay pipe in water. Provide dewatering equipment to maintain a ground water level below the bottom of the pipe while the pipe is being laid.

(e) Push-On Type Joints: Push-on type joints shall be made in accordance with the manufacturer's recommendations.

(f) Mechanical Joints: Make mechanical joints in accordance with the manufacturer's recommendations.

(g) Flange Joints: Make flange joints in accordance with the manufacturer's recommendations.

(h) Cutting: Cut ductile iron pipe using an abrasive wheel saw. Cut PVC pipe using a suitable saw; remove all burrs and smooth the end before jointing.

1.11 - CONNECTIONS TO EXISTING PIPE LINES: Before laying pipe, the Contractor/Developer shall locate the points of connection to existing pipe lines and uncover as necessary for the Division to confirm the nature of the connection to be made. The Division shall furnish materials and make the connection to all existing pipe lines unless otherwise directed. The Contractor/Developer will be charged with a connection fee to cover the expense of the Division.

1.12 - THRUST RESTRAINT: Provide restraint at all points where hydraulic thrust may develop.

(a) Retainer Glands: Install retainer glands on fire hydrants and all associated fittings, valves, and related piping. Retainer glands shall be equal to ACIPCO A 90857.

(b) Concrete Blocking: Provide concrete blocking for all other bends, tees, valves, and other points where thrust may develop.

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 Division. 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 40.

Form and pour concrete blocking at fittings as shown on the Typical Blocking Detail in Appendix A and as directed by the Division. Pour blocking against undisturbed earth. Increase dimensions when required by over excavation.

1.13 – FIRE HYDRANT INSTALLATION: Fire hydrants shall be installed at the locations indicated on the approved Plans and in accordance with the standard detail provided in Appendix 'A' of these Specifications.

All connections shall be fully restrained using rod restraints or mechanical joint glands in all couplings and fittings between the main to the hydrant.

Extension sections shall be used to adjust the elevation of the hydrant barrel so that the breakaway joint is at finish grade.

1.14 – SERVICE LINE INSTALLATION: Service lines shall be installed in accordance with the standard detail provided in Appendix 'A' of these specifications. All service line components shall be brass or copper.

All service lines shall be buried a minimum of 18" below finish grade. Grade of service line shall be adjusted at the meter box to insure that service line passes through notches in meter box. Service line installation shall extend a minimum of 6" beyond the meter box.

1.15 - BACKFILLING: Backfill and compact to prevent settlement and displacement of the pipe.

(a) Material: Trenches may be backfilled with suitable soil material, granular material or crushed stone. Do not use rock excavated from trenches in the backfill. If necessary, furnish suitable material to backfill the trench.

(1) Suitable soil materials shall be those defined as suitable by the Unified Soil Classification System (USCS) in ASTM D 2487. This shall include materials outline in Soil Class II, III, and IV and in general include inorganic sands, silts and clays.

(2) Unsuitable soil material shall be those defined as unsuitable by the Unified Soil Classification System (USCS) in ASTM D 2487. This shall include materials outlined in Soil Class V and in general include organic silts and clays, peat, muck or other highly organic soils.

(3) Granular Material, when used for bedding or backfilling of trenches, shall consist of a granular soil, sand, crushed stone, or mixture of these, all of which pass a 3/4-inch sieve, 80% of which pass a 3/8-inch sieve, and not more than 12% pass a No. 200 sieve. Material shall be free of organic matter and debris.

(4) Crushed Stone, when used for bedding or backfill of trenches, shall consist of sound, durable “crusher-run” rock, all of which passes a 2-inch sieve. Material shall be free of organic matter and debris.

(b) Backfill: Place backfill material in the bottom of the trench and up to two feet above the pipe in 6-inch layers. Compact with two hand operated air hammers with tamping feet, one on each side of the pipe, operated simultaneously.

Backfill above shall be compacted as follows:

(1) In 6-inch layers, if using light power tamping equipment, such as a "Wacker,"

(2) In two foot layers, if using heavy tamping equipment, such as vibratory "Ramax",

(c) Backfill Under Roads: Backfill underlying pavement and backfill under dirt and gravel roads shall be compacted to 95% of the maximum dry density as determined by the Standard Proctor Compaction Test (ASTM D 698).

(d) Settlement: If trenches settle, refill and grade the surface to conform to adjacent surfaces.

(e) Wire Trace: Bury detectable wire trace immediately above PVC pipe. Secure wire to pipe at fittings or at any change in direction or deflection. Take care not to damage wire insulation.

1.16 - REMOVING AND REPLACING PAVEMENT:

(a) Removing Pavement: Remove existing pavement as necessary for installing the pipe line and appurtenances.

(1) Marking: Before removing any pavement, mark the pavement neatly paralleling pipe lines and existing street lines. Space the marks the width of the trench.

(2) Breaking: Break asphalt pavement along the marks using jack hammers or other suitable tools. Break concrete pavement along the marks by use of jackhammers or by scoring with a rotary saw and breaking below the score by the use of jackhammers or other suitable tools.

(3) Machine Pulling: Do not pull pavement with machines until completely broken and separated from pavement to remain.

(4) 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.

(5) Sidewalk: Remove and replace sidewalks for their full width. Replace sidewalk to the nearest construction joint beyond damaged areas.

(6) Curbs: Remove and replace or tunnel under any curb encountered.

(b) Replacing Pavement: Upon completion of backfilling and consolidation of the backfill, arrange to have the compaction tested by an independent testing laboratory approved by the Division. After compaction testing has been satisfactorily completed, replace all pavements, sidewalks and curbs removed.

(1) Materials: Place materials for pavement replacement to dimensions shown on the Drawings. Typical replacement details are included in Appendix A.

(aa) Graded Aggregate Sub-Base: Furnish graded aggregate sub-base in two sizes of such gradation that when combined in approximately equal quantities, the resulting mixture is well graded from coarse to fine, meeting the gradation requirements of Section 816 of the Georgia Department of Transportation Standard Specifications.

(bb) Black Base: The base for all paved roadways shall conform to the requirements of the Georgia Department of Transportation Specifications for the Black Base (Hot Mix). Apply and compact the base in two courses by asphalt spreader equipment of design and operation approved by the Division. After compaction, the black base shall be smooth and true to established profiles and sections.

(cc) Surface Course: The surface course for all pavement, including paint or tack coat when required by the Division, shall conform to the requirements of the Georgia Department of Transportation Specifications for Asphaltic Concrete, Section 400, Type "E" (12.5 mm). Apply and compact the surface course in a manner approved by the Division. 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.

(dd) Concrete: Provide concrete and reinforcing for concrete pavement in accordance with the requirements of the Georgia Department of Transportation Specifications for Portland Concrete Pavement, Section 430.

(2) Supervision and Approval: Pavement restoration shall meet the requirements of the regulatory agency responsible for the pavement. Obtain agency approval of pavement restorations before requesting final inspection.

Obtain the Division's approval for restoration of pavement such as private roads and drives.

Complete pavement restoration as soon as possible after backfilling

(3) Replacement: Prior to replacing pavement, make a final cut in concrete pavement nine inches back from the edge of damaged pavement. Make the cut

using a rotary saw. Remove asphalt pavement nine inches back form the edge of damaged pavement using jack hammers or other suitable tools.

Replace all street and roadway pavement as shown on the Drawings. Replace driveways, sidewalks, and curbs with the same material and to the same dimensions as existing.

(4) Failure of Pavement: Should any pavement restoration or repairs fail or settle within 12 months of completion, promptly restore or repair defects.

1.17 - BORING AND TUNNELING: Furnish and install pipe casing or tunnel and install the pipe line therein in accordance with the Drawings and the following specifications:

(a) General: Where groundwater is encountered, operate well points of drainage systems in the vicinity of the casing or tunnel construction to prevent the accumulation of flood water in the casing or tunnel and to maintain the ground water table below the casing or tunnel invert.

(b) Pipe Casing: Furnish all material and equipment and perform all labor required to install steel pipe casing at locations indicated on the Drawings and as specified.

(1) Boring: The steel casing pipe shall be Schedule 30 steel pipe manufactured from steel conforming to ASTM A 139, Grade B. Size and thickness shall be as follows:

UNDER RAILROADS

Pipe Diameter Inches	Casing Diameter Inches	Wall Thickness inches
6	14	0.250
8	18	0.250
10	20	0.281
12	22	0.312
14	24	0.344
16	30	0.406
18	30	0.406
20	32	0.469
24	36	0.469
30	42	0.500

UNDER HIGHWAYS

Pipe Diameter Inches	Casing Diameter Inches	Wall Thickness inches
6	12	0.250
8	16	0.250
10	16	0.250
12	18	0.250
14	22	0.250
16	24	0.250
18	30	0.312
20	30	0.312
24	36	0.375
30	42	0.375

The outside of the casing pipe shall be primed and coated with a hot coal tar enamel a minimum of 3/32-inches thick. Only new primed and coated pipe shall be used.

Install the steel pipe casing by the dry boring method. Bore the hole and install the casing through the soil simultaneously by a cutting head on a continuous auger mounted inside the casing pipe. Fully weld lengths of casing pipe to the preceding section in accordance with AWS recommended procedures. After the boring and installation of the casing is complete, install a cleaning plug on the rig and clean the casing.

(c) Tunnel: Install the tunnel liner in strict accordance with requirements of the Division, Department of Transportation (DOT), Railroad Company, or other governing agencies. Provide any special insurance coverage required by the governing body. A minimum of five years of experience in construction of tunnels of the general size is required of the tunnel installer. Submit evidence of experience with shop drawings for review by the Division.

Excavate tunnel by full face, heading and bench, or multiple drift procedures. Any procedure utilizing a full or partial shield, a tunneling machine or other equipment which exerts a force on the liner plates for the purpose of propelling, steering or stabilizing the equipment will not be allowed.

Prior to any work involving explosives, make application to the Division, DOT, or other governing agencies, for a special permit which will be in addition to any tunneling permit not involving explosives.

Comply with all requirements and conditions of all permits including required submittals.

Schedule the work so as not to interfere with or in any way endanger traffic flow on the highway or railway. Provide all required safety measures as specified in the Georgia Manual on Uniform Traffic Control Devices.

(1) Materials: Tunnel liner plates shall be manufactured from steel conforming to ASTM A 569 with the following mechanical properties before cold forming:

Minimum Tensile Strength = 42,000 psi
Minimum Yield Strength = 28,000 psi
Elongation, 2 inches = 30 %

Liner plates shall be 10 gauge, with the neutral axis diameter shown on the Drawings for each crossing. All plates shall be formed to provide circumferential flanged joints. Longitudinal joints may be flanged or offset lap seam type. All plates shall be punched for bolting on both longitudinal and circumferential seams or joints. Bolt spacing in circumferential flanges shall be in accordance with the manufacturer's standard spacing and shall be a multiple of the plate length so that plates having the same curvature shall be interchangeable and will permit staggering of the longitudinal seams. Bolt spacing at flanged longitudinal seams shall be in accordance with the manufacturer's standard but not less than that required to meet the longitudinal seam strength requirements of Section 13 of AASHO Standard Specifications for Highway Bridges.

All liner plates in one tunnel shall be the same type.

Liner plates shall be hot-dip galvanized in accordance with ASTM A 123 and bituminous coated.

Bolts shall conform to ASTM A 307 Grade A, and shall be hot-dip galvanized in accordance with ASTM A 153.

Grout nipples shall be 2-inch minimum diameter tapped couplings welded into place over holes cut in the liner plate.

Grout shall consist of 1 part Portland cement, 2 parts masonry lime, 4 parts mortar sand, 2% of an approved admixture, i.e. Bentonite, Septamine Stearex, or Hydrocide Liquid, and where required, a retardant. The quantity of mixing water used shall be that which will produce a workable mixture of grout capable of being pumped into the voids created by the tunneling.

Brick shall be whole and hardburned, conforming to ASTM C32 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 53.

(2) Construction of Tunnel: Construct tunnel so that no settlement of the overpassing roadway or railway section will occur. In order to prevent such settlement, the use of poling plates, brest boards, shields, and soil solidification or a combination of these methods may be necessary.

Install steel liner plates as soon as possible, but no more than 5 feet of tunnel shall remain unlined while tunneling operations are in progress. Not more than 1 foot of tunnel shall be left unlined at the end of the day's operation.

Liner plates shall be installed in accordance with the manufacturer's recommendations and shall be self-supporting.

The tunnel excavation shall have a diameter essentially the same as the outside diameter of the liner plates.

Locate liner plates with grout couplings at the top of the tunnel at intervals not to exceed 10 feet.

Install additional plates with grout couplings on each side of the tunnel between the top couplings.

Pressure grout all voids in the area outside the plates every 10 feet and at the end of the work shift. Pressure grout more frequently if soil conditions dictate. Before grouting any segment of the tunnel liner, seal that segment sufficiently between the liner plates and the surrounding soil to retain the grouting pressure. Locate seals at the entrance of the tunnel, between grout coupling, and within one foot of the end of the tunnel at the end of the work shift.

Provide pumping equipment for grouting operations. Pump horsepower and the resulting pressure in the grouting line shall be sufficient to completely fill the voids without buckling or shifting the liner plates or damaging the roadway.

Repair damaged spelter coating in accordance with DOT specifications Section 645. Any plates having damaged spelter or bituminous coatings, which, in the opinion of the Division cannot be satisfactorily repaired, shall be replaced.

(d) Installation of Pipe: After installation of the casing is complete, install the pipe line by a method that has received prior approval of the Division.

Close the ends of the casing with 4 inch brick walls, plastered with Portland Cement mortar and waterproofed with asphaltic roofing cement.

Leave a 4 inch x 8 inch opening at the bottom of the lowest closure for drainage.

(e) Safety:

(1) Boring: Provide all necessary bracing, bulkheads, and shields to ensure complete safety to all traffic 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. If in the opinion of the Division the installation is being conducted in an unsafe manner, the Contractor/Developer will be required to stop work and bulkhead the

heading until suitable agreements are reached between the Contractor/Developer and the Division.

(2) Tunneling: Begin the tunneling operation in a pit, sheeted and shored as necessary and begin at and proceed from one end. Observe all applicable requirements of DOT, Railroad, or other regulatory agencies. Conduct the operations in such a manner that all work will be performed below the level of the roadbed. Coordinate and schedule all of the work with the Division and other permitting agencies.

Complete all tunneling work at one particular location before work is started at another location.

A temporary bulkhead against the face of the excavation shall be provided and well braced during each cessation of work while the heading is within 20 feet of railroad tracks or highway pavement.

If, in the opinion of the Division, the tunnel installation work is being conducted in a manner detrimental to the overpassing roadway or to the safety of the traveling public, all operations of tunneling shall cease until the necessary corrections have been made. In the event that distress occurs to the roadway due to the tunneling, the Contractor shall be required submit a plan to repair the roadway. The plan must be acceptable to the Division and other permitting agencies.

1.18 - STREAM AND DITCH CROSSING: The Contractor/Developer shall be responsible for securing 'wetlands' permits under Section 404 of the Clean Water Act, compliance with the River Corridors Protection Act, compliance with the Erosion and Sedimentation Act of 1975 (O.C.G.A. 12-7-6 (15)) as amended, and all other applicable laws and regulations while performing work adjacent to, or in crossing, streams and ditches. At all points where banks of streams or drainage ditches are disturbed by excavation or where natural vegetation is removed, carefully compact backfill and place rip rap to prevent subsequent settlement and erosion.

This requirement applies equally to construction along the side of a stream or drainage ditch as well as crossing stream or drainage ditch. Place rip rap a distance of not less than 10 feet upstream and 10 feet downstream from any disturbed area. Extend rip rap from 1 foot below streambed to top of bank. Place to conform to the natural slope of the stream bank.

Use only one method, either (a) or (b), throughout the job.

(a) Stone Rip Rap: Use sound, tough, durable stones resistant to the action of air and water. Slabby or shaley pieces will not be acceptable. Specific gravity shall be 2.0 or higher.

Minimum weight of individual stones shall be 50 pounds. The maximum allowable dimension for an individual stone is 24 inches. The minimum allowable dimension for an individual stone is 6 inches. At least 50% of the stones shall have a minimum dimension of 12 inches.

Imbed stone rip rap by hand so as to form a compact layer at least 12 inches thick. Place rip rap in such a way that the smaller stones are not segregated but evenly distributed. Place chinking stones in the crevices between the larger stones so that a dense, well graded mass is produced.

(b) Sand-Cement Bag Rip Rap: Use cement sacks or burlap bags having a capacity of from 1 to 2 cubic feet. Do not use bags previously used for sugar or chemicals. Fill bags with a mixture of one part Portland Cement to five parts sand.

Imbed bags by hand to form a compact layer at least 12 inches thick. Place with over lapping joints. The finished surface shall not deviate from that specified by more than 3 inches at any point.

1.19 – TESTING, INSPECTION, & REJECTION OF WORK: When a length of pipe approved by the Division is ready for testing, fill the line with water, bleed out all air and make a leakage test in accordance with the latest revision of AWWA C600.

(a) Preparation: Provide a test pump, an accurate water meter, and all other accessories required to make the test. Provide a corporation stop at each high point on the pipe to bleed off air. Provide and remove all temporary bulkheads, plugs, and flanges required to perform the pressure test.

(b) Test Pressure and Leakage: Test the pipe line at 200 psi measured at the lowest point. Leakage shall not exceed 0.11 gallons per hour per inch diameter per thousand feet. Test for a minimum of two hours. Test pressure shall not vary by more than ±5 psi for the duration of the test.

When testing against closed gate valves, an additional leakage per closed valve of 0.0078 gallons per hour per inch diameter of nominal valve size shall be allowed.

If leaks are detected, locate, repair, and retest. If results are not totally satisfactory, the Division may require testing for a longer period of time.

(c) Existing Valves: Do not operate valves in the existing system without the specific authorization and direct supervision of the Division.

(d) Testing of Materials: Unless otherwise specifically provided for in the Specifications, the inspection and testing of products to be incorporated in the work at the site shall be made by bureaus, laboratories, or agencies approved by the Owner and the cost of such inspection and testing shall be paid by the Contractor. The Contractor shall furnish evidence satisfactory to the Engineer that the products have passed the required tests prior to their incorporation into the work. The Contractor shall promptly segregate and remove rejected products from the site of the work.

(e) Inspection: The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether or not the work performed and products used are in accordance with the requirements and intent of the Specifications and Contract Documents. No work

shall be done or products used without suitable supervision or inspection by the Engineer or his representative. Failure to reject any defective work or product shall not in any way prevent later rejection when such defect is discovered, or obligate the Owner to final acceptance.

(f) Rejection of Work and Materials: All products furnished and all work done that is not in accordance with the Drawings or Specifications or that is defective will be rejected. All rejected products or work shall be removed immediately. If rejected products or work is not removed within forty-eight hours, the Engineer or Owner shall have the right and authority to stop the work immediately and shall have the right to arrange for the removal of said rejected products or work at the cost and expense of the Contractor. All rejected products or work shall be replaced with other products or work which conforms with the Drawings and Specifications.

(g) Contractor's Responsibility: Inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his contract and defective work shall be made good regardless of whether such work has been previously inspected by the Engineer and accepted or estimated or payment. The failure of the Engineer to reject improper work shall not be considered a waiver of any defect which may be discovered later, or for work actually defective.

1.20 - DISINFECTING PIPE LINES: Disinfect all installed potable water lines and all other pipe lines which may have been contaminated by the work. The Contractor must coordinate with the Division for all sampling and bacteriological testing.

(a) Disinfection: Prepare a one percent chlorine solution using high-test calcium hypochlorite (HTH) and place an adequate quantity of this solution into the water mains to obtain a minimum chlorine concentration of 50 mg/l. Application of the chlorine may be at the time of filling for pressure testing. At the end of 24 hours check the chlorine residual and if found to be less than 25 mg/l add chlorine solution and check again after 24 hours.

The following is the minimum quantity of solution required per 100 feet of pipe line to obtain the desired concentration:

Pipe Size	Gallons of Solution	Solution Strength,%
1 inch	.02	1
2 inches	.08	1
3 inches	.18	1
4 inches	.32	1
6 inches	.73	1
8 inches	1.30	1
10 inches	2.04	1
12 inches	2.88	1
14 inches	0.38	10
16 inches	0.50	10

18 inches	0.63	10
20 inches	0.78	10
24 inches	1.12	10
30 inches	1.72	10

(b) Flushing: After completing chlorination, flush the line with potable water and test for chlorine residual at the point of discharge until the chlorine residual is equal to the chlorine residual of the water used for flushing. Allow the pipe line to remain full for 24 hours and take samples for bacteriological examination. Analyze these samples. Results must be acceptable to the State. If the samples are not satisfactory, perform additional sterilization until acceptable samples are obtained.

(c) Sampling: Sampling determinations of chlorine residual for sterilization and flushing shall be performed by the Division's laboratory personnel. Sampling will be available during normal business hours Monday through Friday. The Division shall be requested to perform such sampling and testing no less than 48 hours prior to the sampling time. The costs of all tests and sampling shall be the responsibility of the Contractor.

1.21 – EROSION AND SEDIMENT CONTROL: The Contractor/Developer shall observe all local laws and ordinances in relation to erosion and sediment control as they pertain to this project. All erosion control plans and construction shall be in accordance with the "Manual for Erosion and Sediment Control in Georgia" latest revision, the State of Georgia Erosion and Sedimentation Control Act of 1975 as amended in 1995, and Best Management Practices. All erosion control measures shall be designed to effectively control erosion and sedimentation for all rainfall events up to and including the 25-year, 24 hour rainfall.

The Contractor/Developer shall designate one individual to be responsible for implementation and maintenance of erosion and sedimentation controls on a 24-hour, everyday basis. The Contractor/Developer shall furnish to the City of Rome the individual's name, address and 24-hour telephone number and notify the City of any updates as necessary.

All erosion and sedimentation control measures must be installed prior to the initiation of any construction activity. Additional erosion and sedimentation control devices shall be installed as needed, or as directed by the City of Rome.

The City of Rome Public Works Division or Water and Sewer Division shall have the right to stop work when erosion and sediment control measures are not being implemented in accordance with Best Management Practices. No claim will be allowed by the Contractor/Developer for cost of downtime of men and equipment associated with any shutdown of the Contractor's operations.

1.22 - GRASSING: All graded and disturbed areas shall be grassed upon the completion of construction. This work shall consist of preparing ground surfaces and applying lime, fertilizer, seed and mulch in accordance with the Manual for Erosion Control in Georgia and Georgia D.O.T. Standard Specifications latest edition. The Contractor/Developer shall furnish water as necessary to obtain an acceptable stand of grass as defined below.

NOTE: All grass removed or damaged in residential areas shall be replaced using the same variety of grass at the first appropriate season.

Grassing shall follow backfill operations as closely as possible. At no time shall the amount of backfilled trench which has not been seeded and mulched exceed 400'.

Grassed areas shall be inspected by the City of Rome and shall be considered complete only if grassing has reached a point of maturity such that no bare spots shall be larger than one square foot. Any existing bare spots shall be evenly distributed among the total grassed area, and shall not make up more than on percent of total grassed area.

Appendix B of this specification contains grassing specifications for disturbed area stabilization as outlined in the Manual for Erosion and Sediment Control in Georgia.

1.23 - 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.

(b) Man-Made Improvements: Protect, or remove and replace with the Division's approval, all fences, piers, docks, walkways, mailboxes, pipe lines, drain culverts, power and telephone lines and cables, and other improvements that may be encountered in the work.

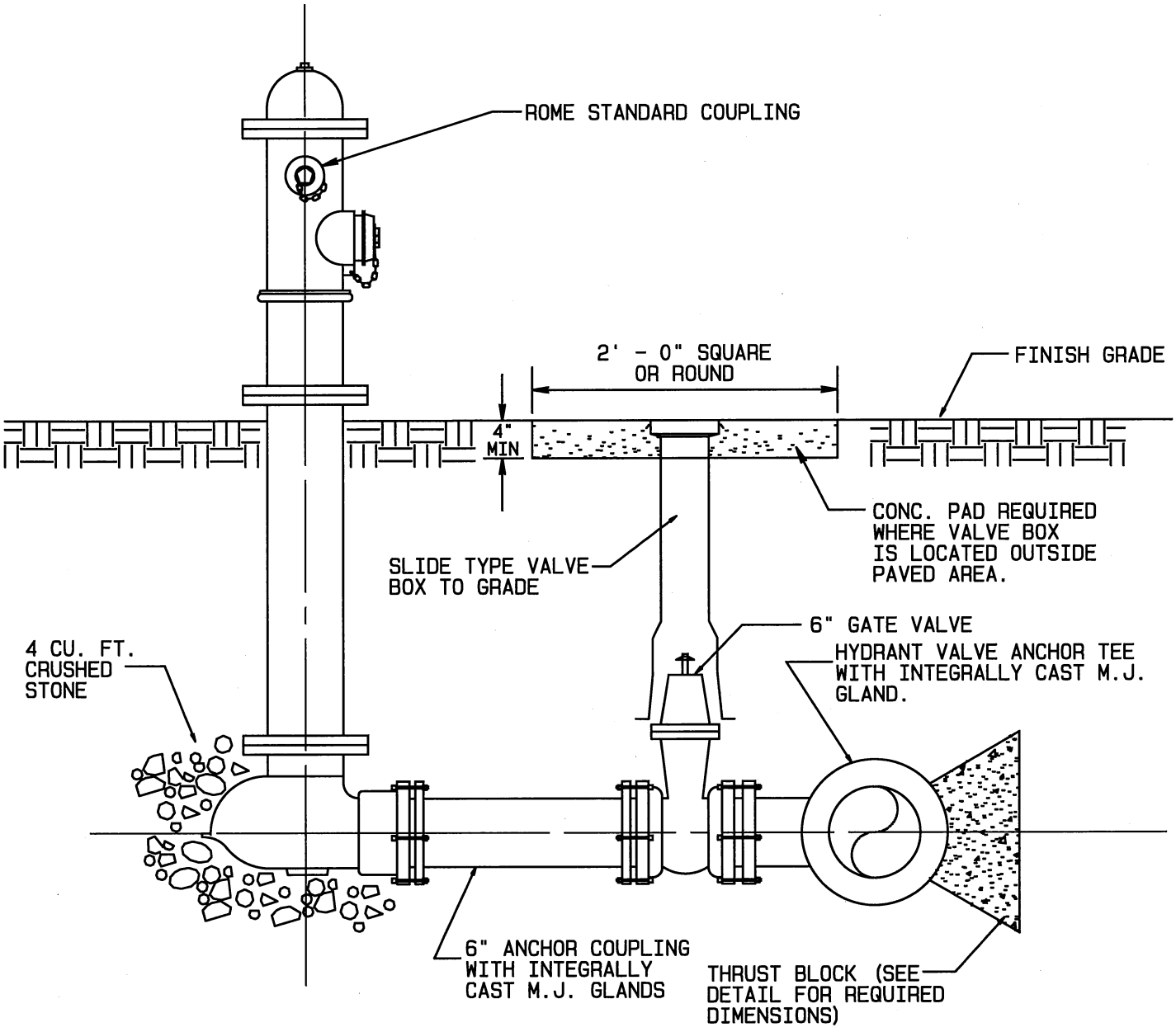
(c) Cultivated Growth: Do not disturb cultivated trees or shrubbery unless approved by the Division. Any such trees or shrubbery that must be removed shall be heeled in and replanted under the direction of an experienced nurseryman.

(d) Cutting of Trees: Do not cut trees for the performance of the work unless specifically approved by the Division. 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) Grassing: Replant grass removed or damaged in residential areas using the same variety of grass and at the first appropriate season. In all areas, promptly establish successful stands of grass as outlined in section 1.22 above and Appendix B.

(f) Erosion Control: Plan excavation work to prevent erosion and the washing of soil into adjacent streams. Limit the amount of open excavation at any one time. Place spoil in the proper place and keep natural water routes open.

(g) Disposal of Rubbish: Dispose of all materials cleaned and grubbed during the construction of the project in accordance with the applicable codes and rules of the appropriate regulatory agencies, county, state and federal. Burial of trees, limbs, stumps or other rubbish along or in trench shall is prohibited.



TYPICAL FIRE HYDRANT ASSEMBLY

NOT TO SCALE

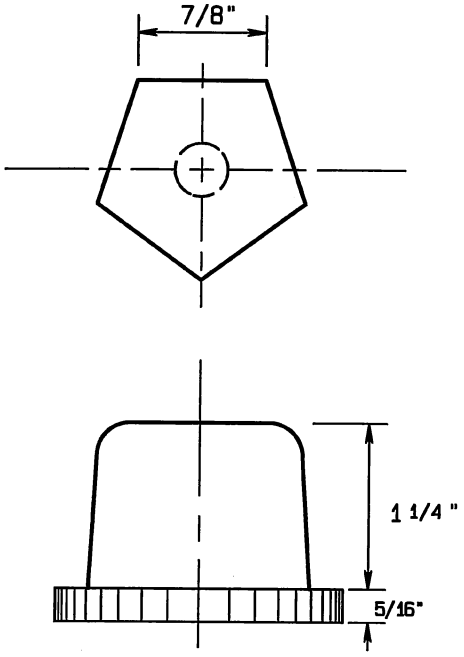
NOTE: ALL FIRE HYDRANTS TO BECOME THE MAINTENANCE RESPONSIBILTY OF THE CITY OF ROME SHALL BE MUELLER CENTURION.

CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

TYPICAL FIRE HYDRANT ASSEMBLY
STANDARD DETAIL

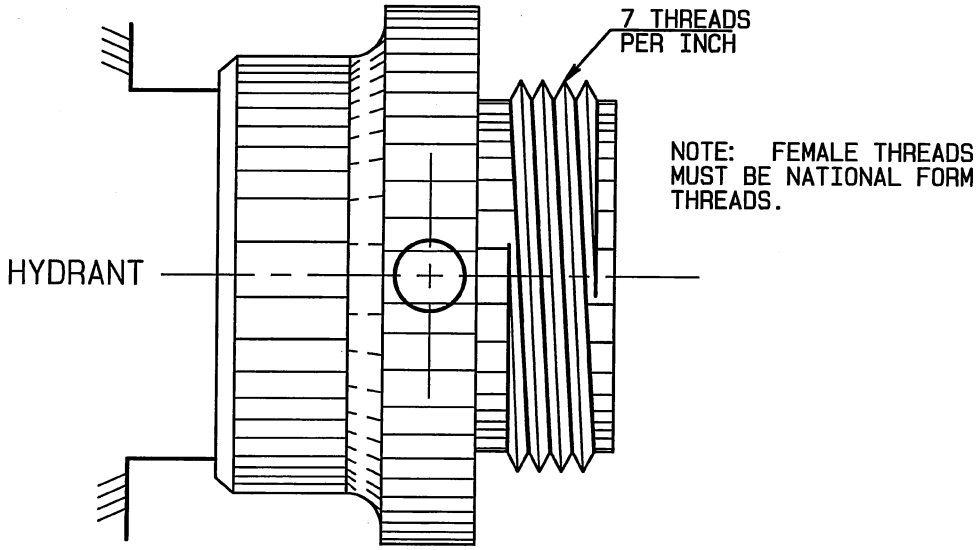
SCALE: AS SHOWN	**DRAWN BY:** BSI
DATE: MARCH 1998	**FINAL APPROVAL:**

EFFECTIVE DATE: 04-21-15 **SHEET** 1 **OF** 1



OPERATING NUT

NOT TO SCALE



ROME STANDARD HOSE COUPLING

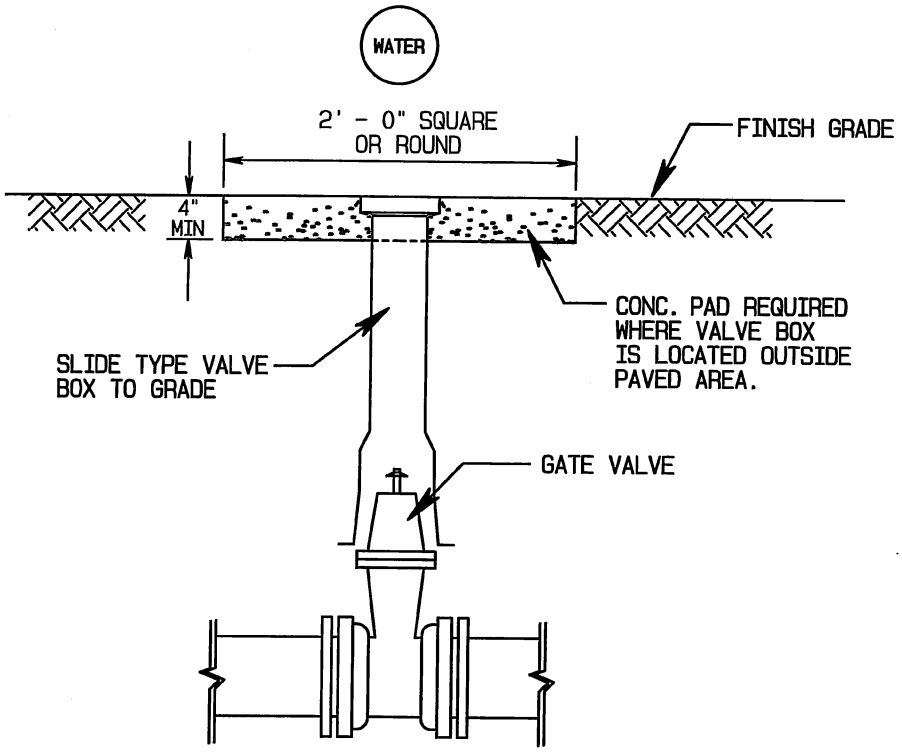
NOT TO SCALE

CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

ROME STANDARD HOSE COUPLING
STANDARD DETAIL

SCALE: AS SHOWN	DRAWN BY: BSI
DATE: MARCH 1998	FINAL APPROVAL:

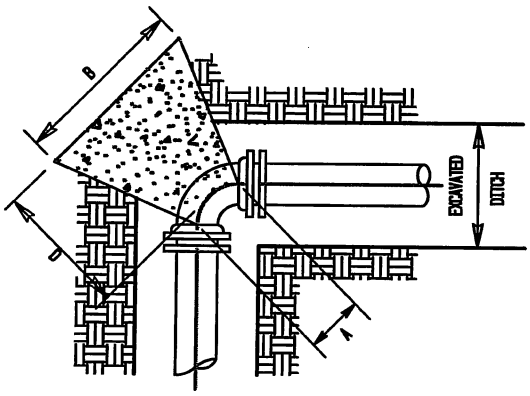
SHEET 1 OF 1



TYPICAL GATE VALVE & BOX

NOT TO SCALE

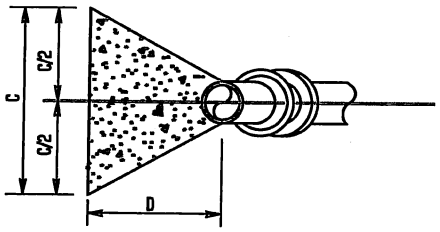
CITY OF ROME, GEORGIA ENGINEERING DEPARTMENT	
TYPICAL GATE VALVE & BOX STANDARD DETAIL	
SCALE: AS SHOWN	DRAWN BY: BSI
DATE: MARCH 1998	FINAL APPROVAL:
EFFECTIVE DATE: 10-21-08	SHEET 1 OF 1



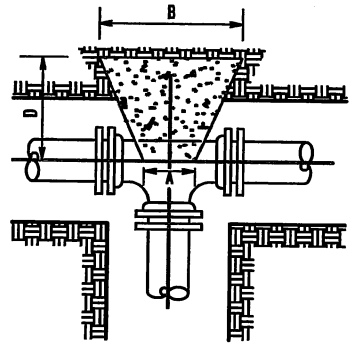
PLAN

THRUST BLOCKING - BENDS

N.T.S.



SECTION



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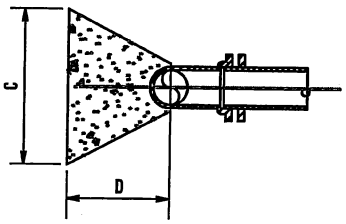
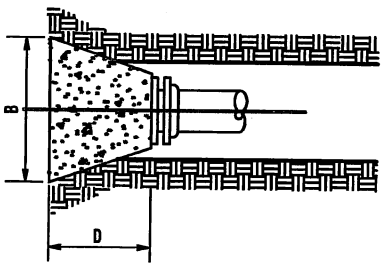


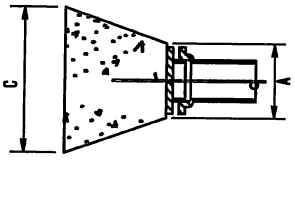
SECTION

THRUST BLOCKING - TEES

N.T.S.



PLAN



SECTION

THRUST BLOCKING - PLUGS

N.T.S.

THRUST BLOCK DIMENSIONS

PIPE SIZE	90 BEND				45 BEND				22 1/2 BEND				11 1/4 BEND				TEE OR PLUG			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
30"	2'-9"	10'-6"	10'-6"	7'-0"	1'-6"	7'-9"	7'-9"	4'-9"	1'-10"	5'-9"	5'-9"	3'-0"	1'-11"	4'-0"	4'-0"	2'-6"	2'-9"	8'-9"	9'-0"	5'-9"
24"	2'-7"	8'-6"	8'-6"	5'-9"	1'-3"	6'-3"	6'-3"	3'-9"	1'-8"	4'-6"	4'-6"	2'-3"	1'-9"	3'-3"	3'-3"	2'-3"	2'-6"	7'-0"	7'-3"	4'-9"
20"	2'-1"	7'-0"	7'-0"	4'-9"	1'-0"	5'-3"	5'-3"	3'-3"	1'-5"	4'-0"	4'-0"	2'-0"	1'-6"	2'-9"	2'-9"	2'-0"	2'-4"	6'-0"	6'-0"	3'-9"
18"	1'-11"	6'-0"	6'-0"	4'-0"	1'-0"	4'-9"	4'-9"	3'-0"	1'-3"	3'-6"	3'-6"	2'-0"	1'-4"	2'-6"	2'-6"	1'-9"	1'-2"	5'-3"	5'-6"	3'-6"
16"	1'-9"	5'-9"	5'-9"	4'-0"	0'-11"	4'-3"	4'-3"	2'-9"	1'-2"	3'-0"	3'-0"	1'-6"	1'-3"	2'-3"	2'-3"	1'-6"	1'-6"	4'-9"	4'-9"	3'-3"
14"	1'-7"	5'-0"	5'-0"	3'-6"	0'-10"	3'-9"	3'-9"	2'-6"	1'-1"	2'-9"	2'-9"	1'-6"	1'-2"	2'-0"	2'-0"	1'-3"	1'-6"	4'-0"	4'-3"	2'-9"
12"	1'-4"	4'-3"	4'-6"	3'-3"	0'-10"	3'-3"	3'-3"	2'-3"	1'-1"	2'-6"	2'-6"	1'-6"	1'-2"	1'-9"	1'-9"	1'-3"	1'-3"	3'-6"	3'-9"	2'-6"
10"	1'-3"	3'-9"	3'-9"	2'-9"	0'-9"	2'-9"	2'-9"	1'-9"	1'-0"	2'-0"	2'-0"	1'-3"	1'-0"	1'-6"	1'-6"	1'-0"	1'-3"	3'-0"	3'-0"	2'-0"
8"	1'-0"	3'-0"	3'-0"	2'-3"	0'-7"	2'-3"	2'-3"	1'-6"	0'-10"	1'-9"	1'-9"	1'-0"	0'-10"	1'-3"	1'-3"	1'-0"	1'-0"	2'-3"	2'-6"	1'-9"
6"	0'-11"	2'-3"	2'-3"	1'-9"	0'-7"	1'-9"	1'-9"	1'-3"	0'-9"	1'-6"	1'-6"	1'-0"	0'-9"	1'-0"	1'-0"	0'-9"	0'-11"	1'-9"	2'-0"	1'-6"
4"	0'-9"	1'-6"	1'-6"	1'-3"	0'-5"	1'-6"	1'-6"	1'-3"	0'-7"	1'-3"	1'-3"	1'-0"	0'-7"	0'-9"	0'-9"	0'-9"	0'-11"	1'-3"	1'-3"	1'-0"

NOTES:

1. THRUST BLOCKING TO BE CLASS "B" CONCRETE, NO SAKRETE OR QUICKRETE PERMITTED.
2. DIMENSIONS CALCULATED USING A SOIL LOAD BEARING CAPACITY OF 2000 PSF. IF SOIL BEARING CAPACITY IS FOUND TO BE LESS THAN 2000 PSF, THE CONTRACTOR SHALL INCREASE THESE DIMENSIONS.
3. THRUST BLOCKING SHALL BEAR AGAINST UNDISTURBED SOIL.
4. DESIGN PRESSURE = 200 PSI.

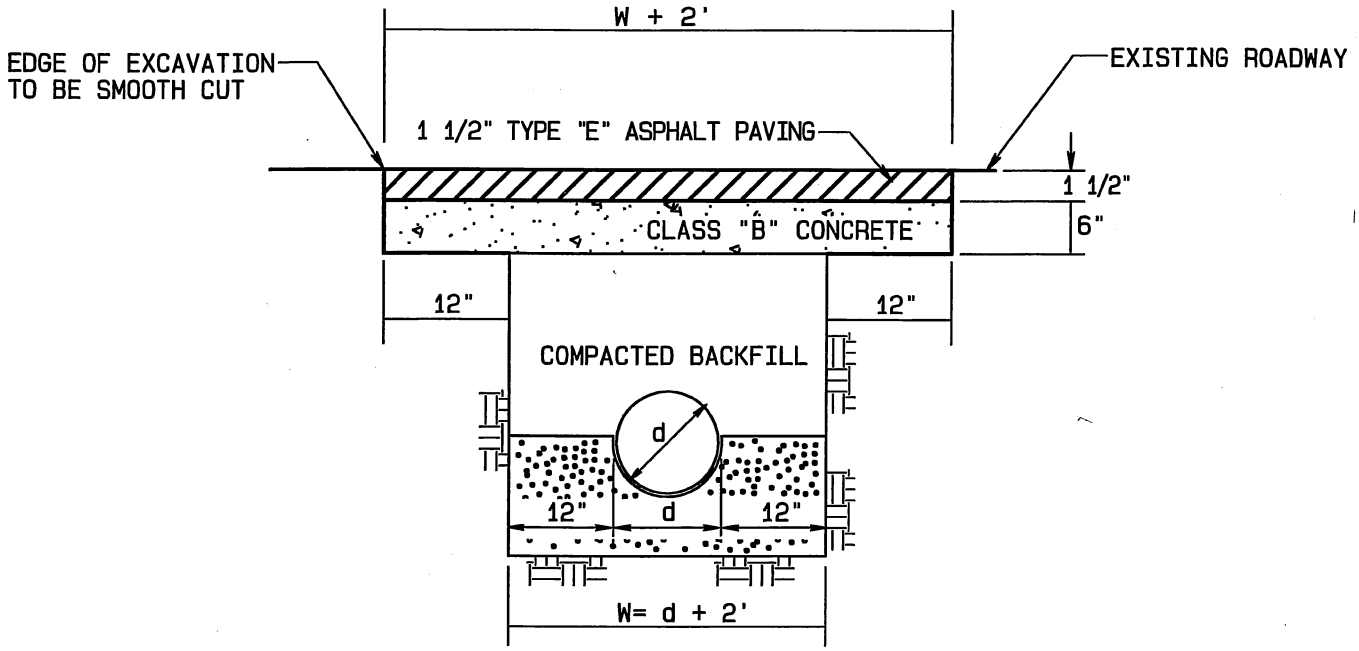
CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

TYPICAL THRUST BLOCKING
STANDARD DETAIL

SCALE: AS SHOWN | DRAWN BY: BSI
DATE: MARCH 1998 | FINAL APPROVAL:

EFFECTIVE DATE: 10-21-08 SHEET 1 OF 1

ALL BEDDING MATERIAL AROUND MANHOLES IN PAVED AREAS SHALL BE COVERED WITH SILT FENCE FILTER FABRIC MEETING OR EXCEEDING GDOT STANDARD 881-2-07 FOR TYPE "C" FENCING. FABRIC SHALL EXTEND A MINIMUM OF 12-INCHES UP TRENCH WALLS, SIDE OF MAHOLE AND SHALL HAVE A MINIMUM OF 12-INCHES OF OVERLAP.



NOTE: ALL TRENCHES SHALL BE BACKFILLED AND RETURNED TO 95% COMPACTION ON THE SAME DAY THE TRENCH IS OPENED.

REPAIR OF ROADWAY CUT DETAIL

NOT TO SCALE

BACKFILL MATERIAL TO BE APPROVED BY A REPRESENTATIVE OF THE CITY OF ROME.

CONTRACTOR/UTILITY SHALL MAKE TWO (2) CUTS ACROSS THE STREET OR AROUND CUT-OUT. THE FIRST SAW CUT SHALL ALIGN WITH THE TRENCH/HOLE WALL. INITIAL EXCAVATION SHALL BE LIMITED TO THAT AREA. THE SECOND SAW CUT SHALL BE MADE AT THE LIMITS OF THE PATCH AREA WITH NO EXCAVATION TAKING PLACE IN THE 12-INCH AREA ON EACH SIDE OF THE TRENCE/HOLE UNTIL THE TRENCH HAS BEEN BACKFILLED UP TO AN ELEVATION 7-1/2-INCHES LOWER THAN THE ROADWAY.

TRENCH SHALL BE INSPECTED BY A REPRESENTATIVE OF THE CITY OF ROME FOR PROPER COMPACTION PRIOR TO THE PLACEMENT OF THE CONCRETE.

CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

REPAIR OF ROADWAY CUT
STANDARD DETAIL

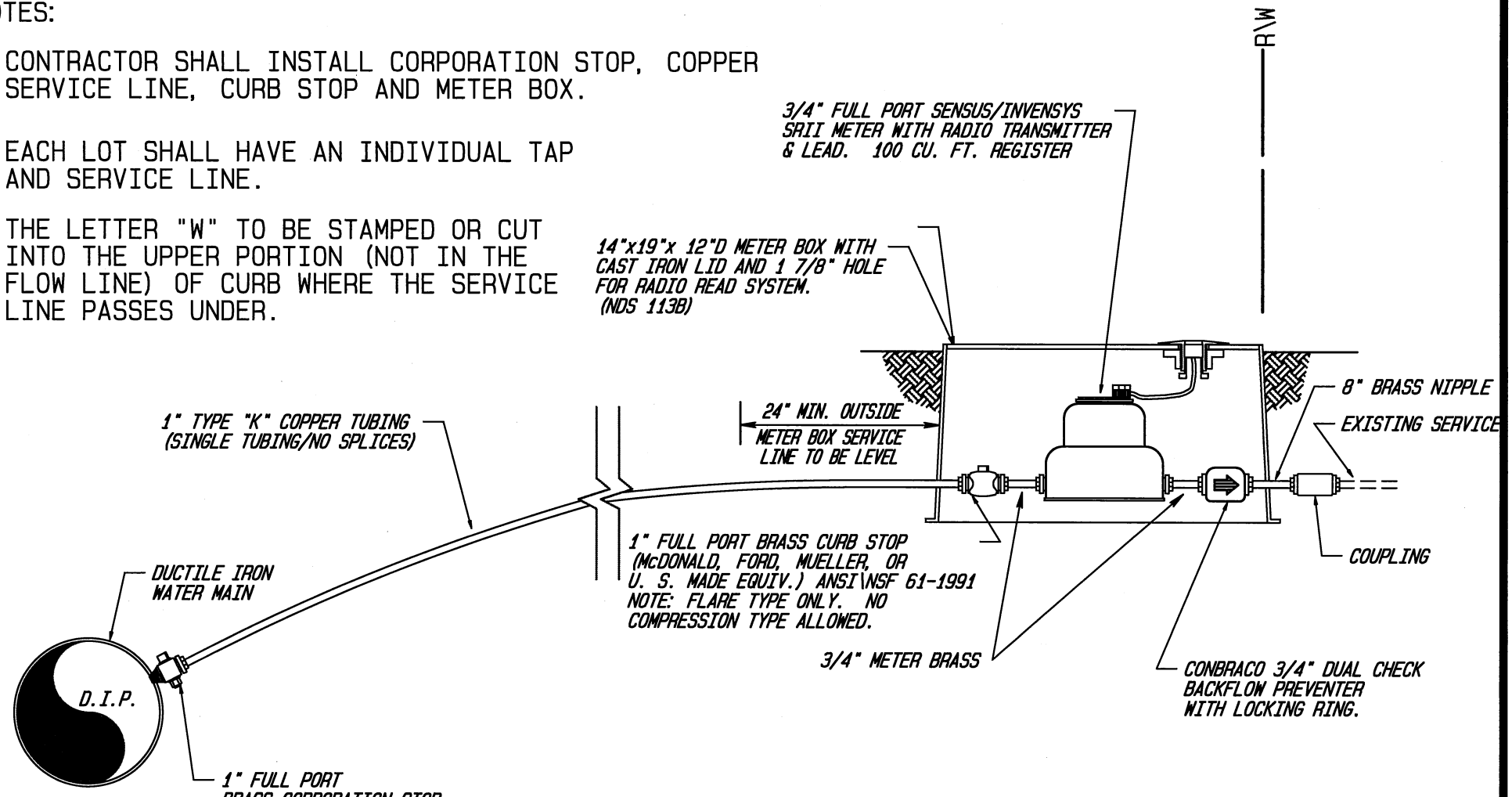
SCALE: AS SHOWN	DRAWN BY: BSI
DATE: MARCH 1998	FINAL APPROVAL:
EFFECTIVE DATE: 11-07-13	SHEET 1 OF 1

NOTES:

1. CONTRACTOR SHALL INSTALL CORPORATION STOP, COPPER SERVICE LINE, CURB STOP AND METER BOX.

2. EACH LOT SHALL HAVE AN INDIVIDUAL TAP AND SERVICE LINE.

3. THE LETTER "W" TO BE STAMPED OR CUT INTO THE UPPER PORTION (NOT IN THE FLOW LINE) OF CURB WHERE THE SERVICE LINE PASSES UNDER.



A-6

TYPICAL SERVICE CONNECTION

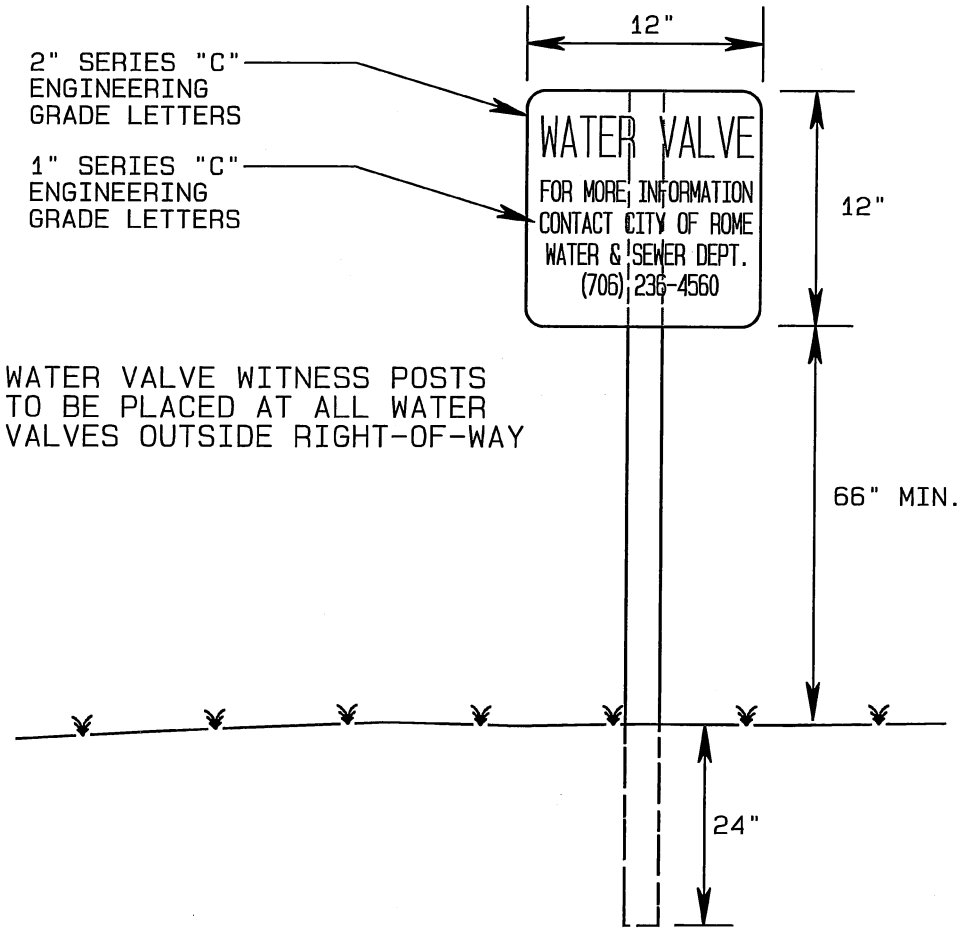
NOT TO SCALE

CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

TYPICAL WATER SERVICE CONNECTION STANDARD DETAIL (SINGLE FAMILY LOT)

SCALE: AS SHOWN	DRAWN BY: BSI
DATE: 11/01/01	FINAL APPROVAL:

EFFECTIVE DATE: 12-23-14 SHEET 1 OF 1



WATER VALVE WITNESS POSTS TO BE PLACED AT ALL WATER VALVES OUTSIDE RIGHT-OF-WAY

WITNESS POST DETAIL

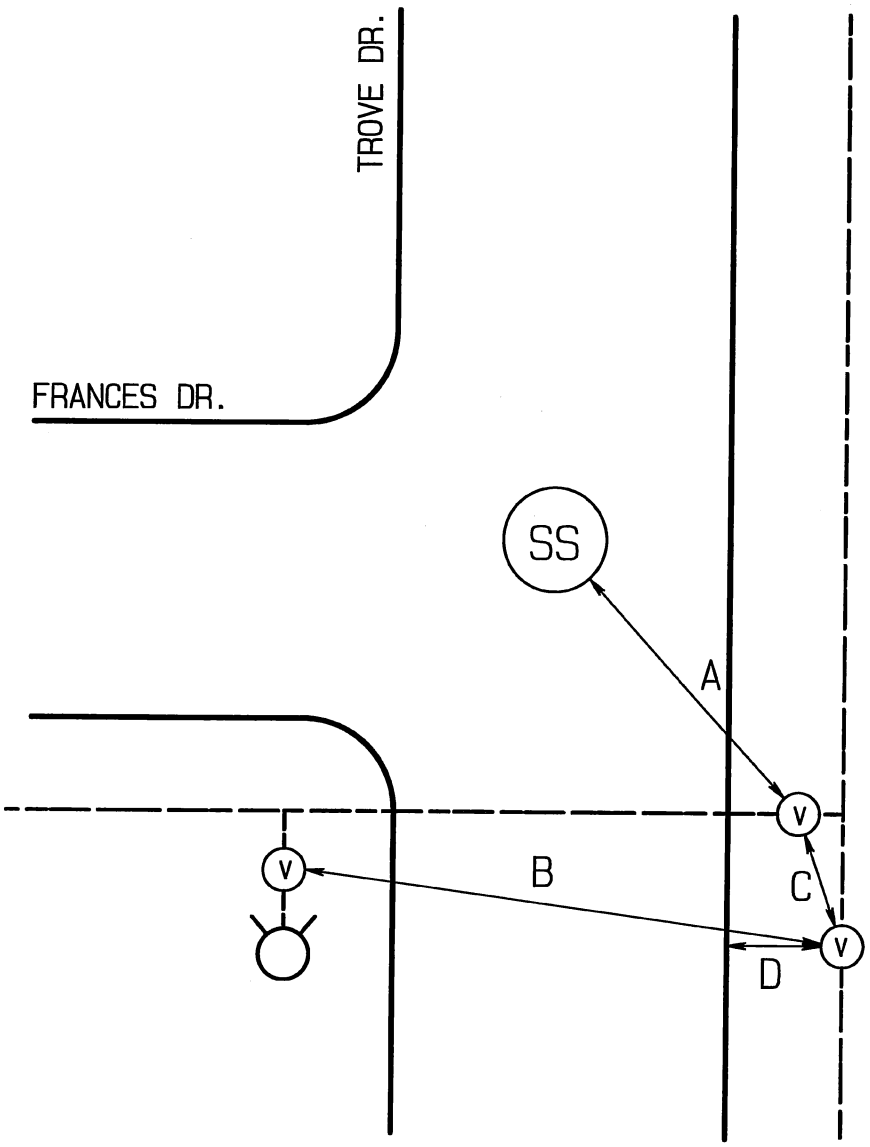
N.T.S.

CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

VALVE WITNESS POST
STANDARD DETAIL

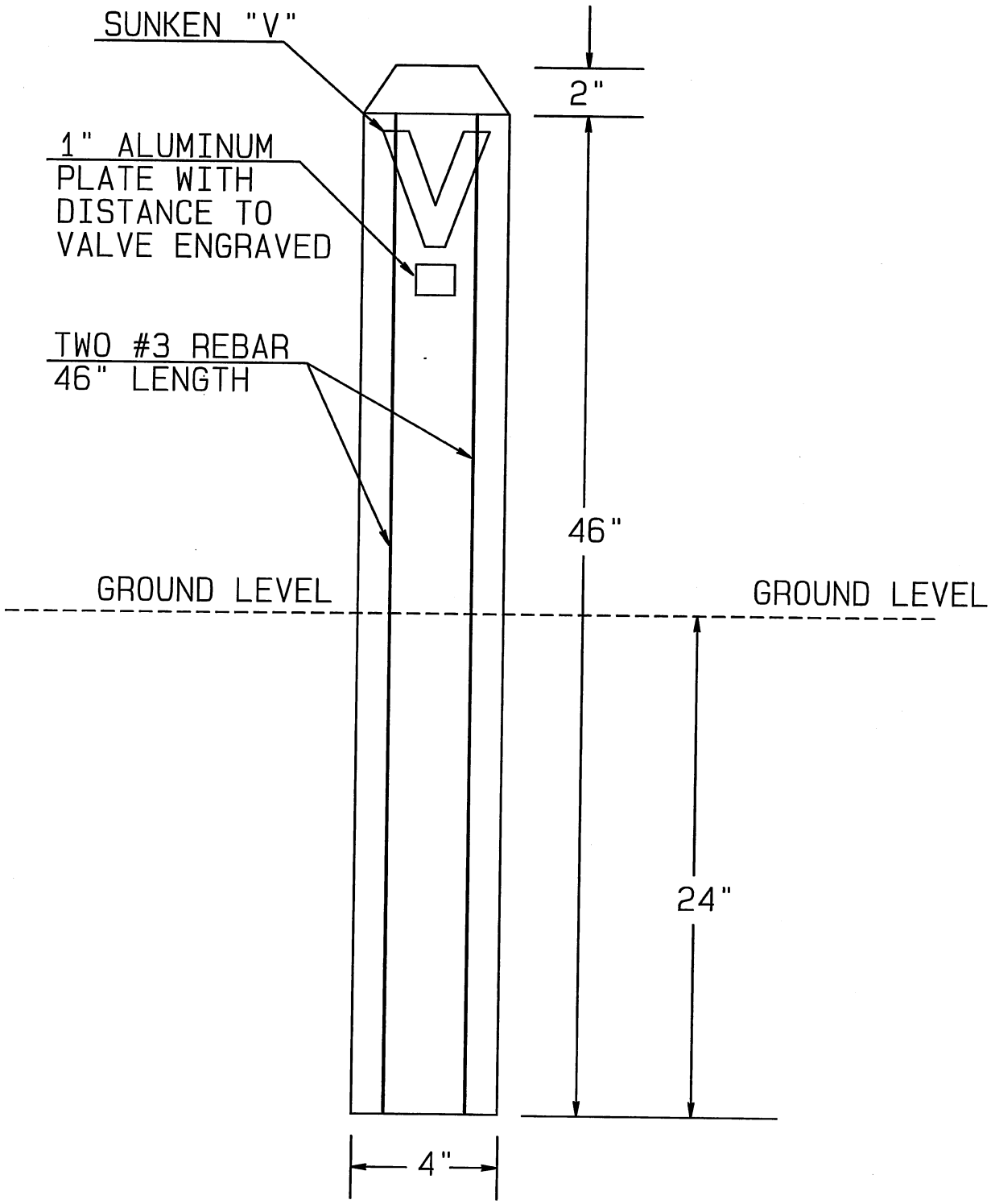
SCALE: AS SHOWN	DRAWN BY: BSI
DATE: NOV. 1998	FINAL APPROVAL:

SHEET 1 OF 1



A - 30'-4"
B - 62'-2"
C - 2'-2"
D - 9'-6" TO B.C.

CITY OF ROME, GEORGIA ENGINEERING DEPARTMENT	
VALVE LOCATION SKETCH SAMPLE DRAWING	
SCALE: AS SHOWN	DRAWN BY: BSI
DATE: FEB. 1999	FINAL APPROVAL:
	SHEET 1 OF 1



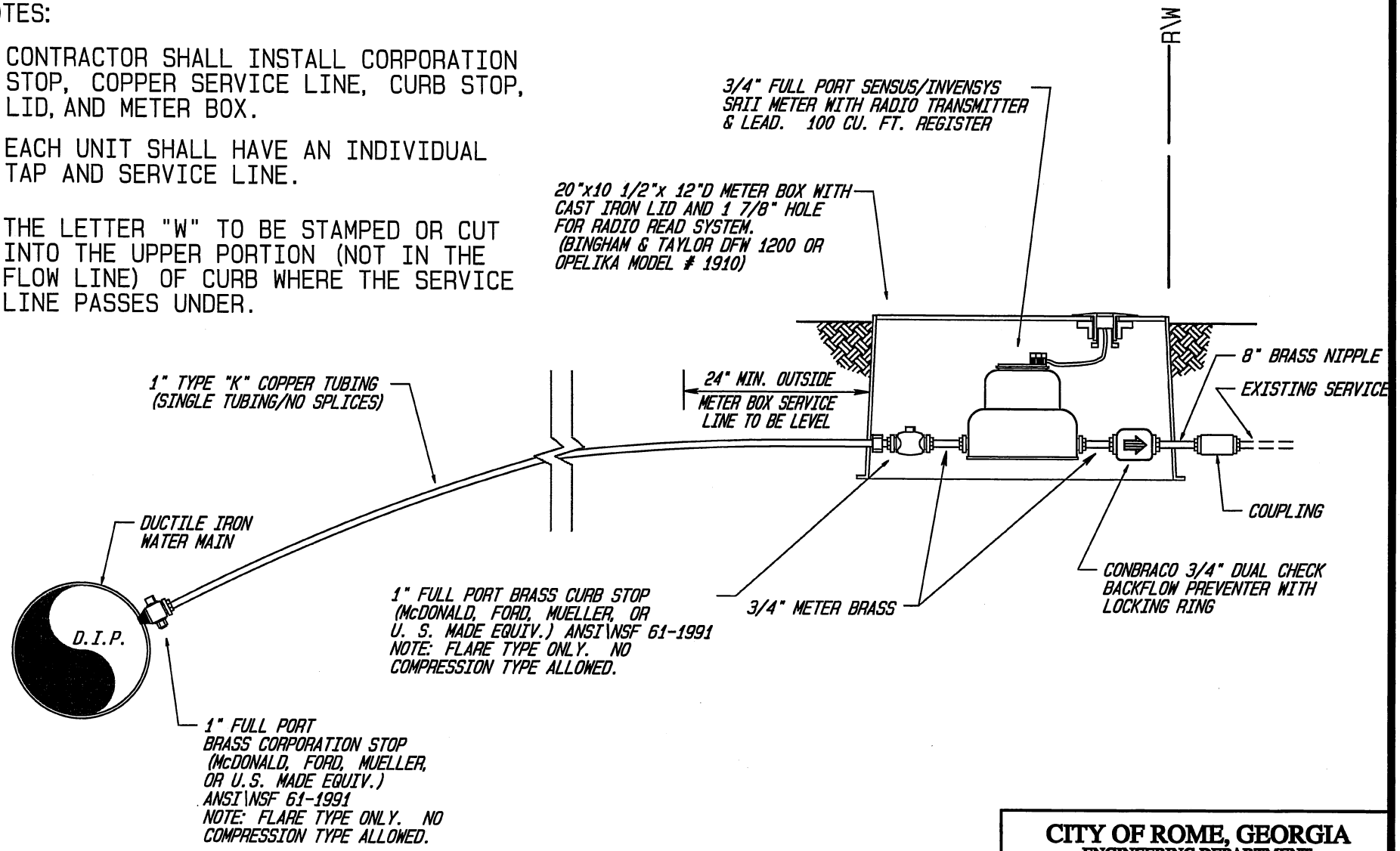
TYPICAL CONCRETE VALVE MARKER

NOT TO SCALE

CITY OF ROME, GEORGIA ENGINEERING DEPARTMENT	
TYPICAL CONCRETE VALVE MARKER	
SCALE: AS SHOWN	DRAWN BY: SAF
DATE: MAY 2005	FINAL APPROVAL:
	SHEET 1 OF 1

NOTES:

1. CONTRACTOR SHALL INSTALL CORPORATION STOP, COPPER SERVICE LINE, CURB STOP, LID, AND METER BOX.
2. EACH UNIT SHALL HAVE AN INDIVIDUAL TAP AND SERVICE LINE.
3. THE LETTER "W" TO BE STAMPED OR CUT INTO THE UPPER PORTION (NOT IN THE FLOW LINE) OF CURB WHERE THE SERVICE LINE PASSES UNDER.



A-10

TYPICAL SERVICE CONNECTION

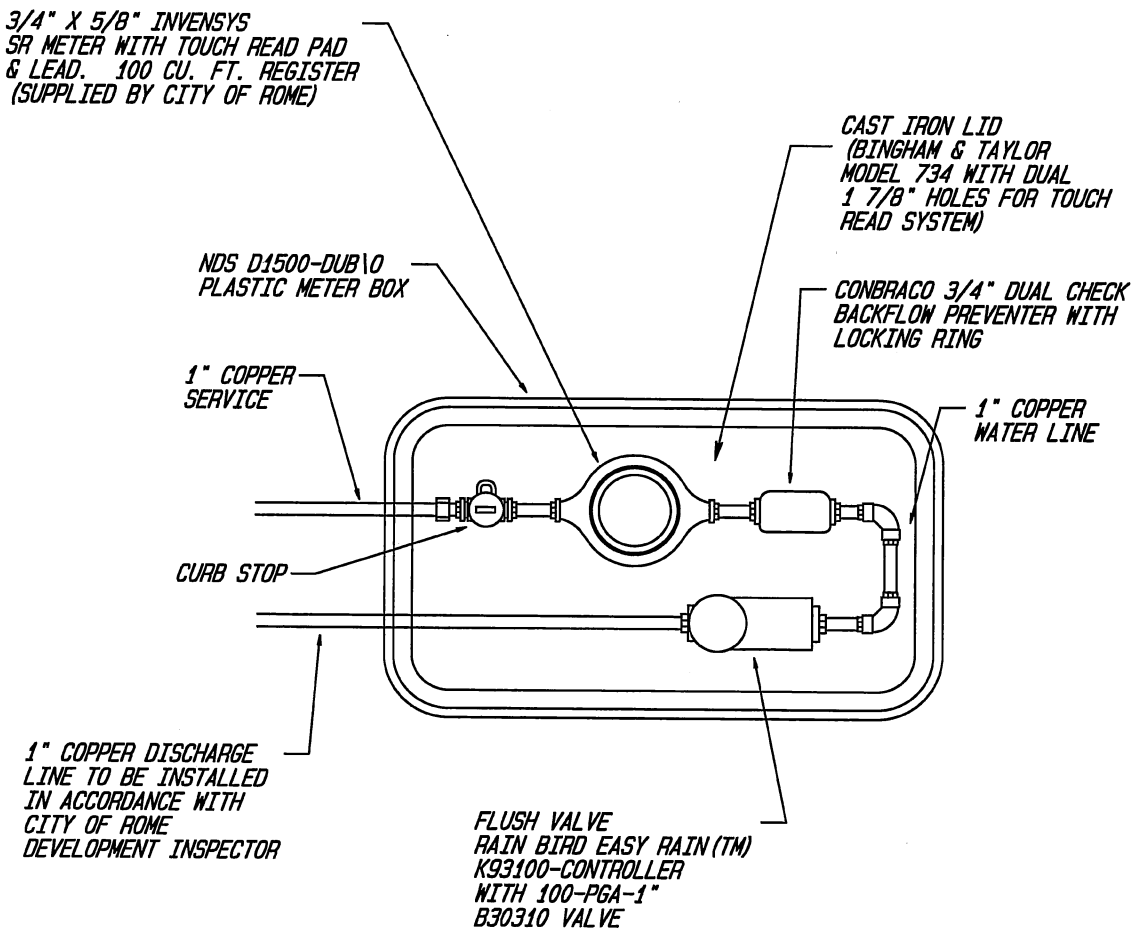
NOT TO SCALE

CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

TYPICAL WATER SERVICE CONNECTION STANDARD DETAIL (DUPLEX LOT)

SCALE: AS SHOWN	DRAWN BY: BSI
DATE: 06/17/02	FINAL APPROVAL:

EFFECTIVE DATE: 12-04-08 SHEET 1 OF 1



TYPICAL AUTOMATIC FLUSH INSTALLATION

NOT TO SCALE

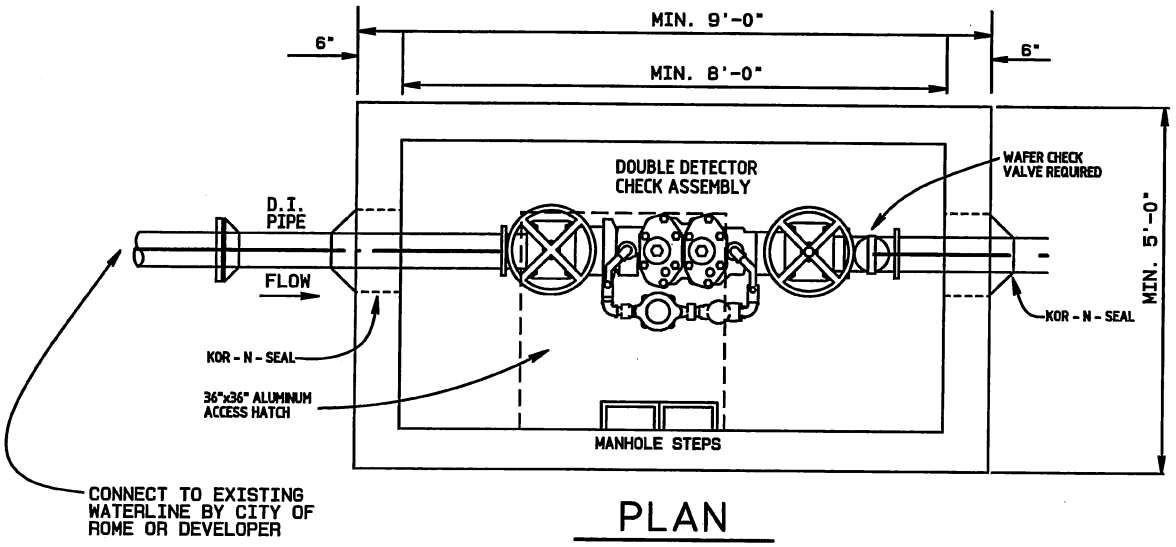
CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

AUTOMATIC FLUSH INSTALLATION
STANDARD DETAIL

SCALE: AS SHOWN	**DRAWN BY:** BSI
DATE: 05-01-05	**FINAL APPROVAL:**

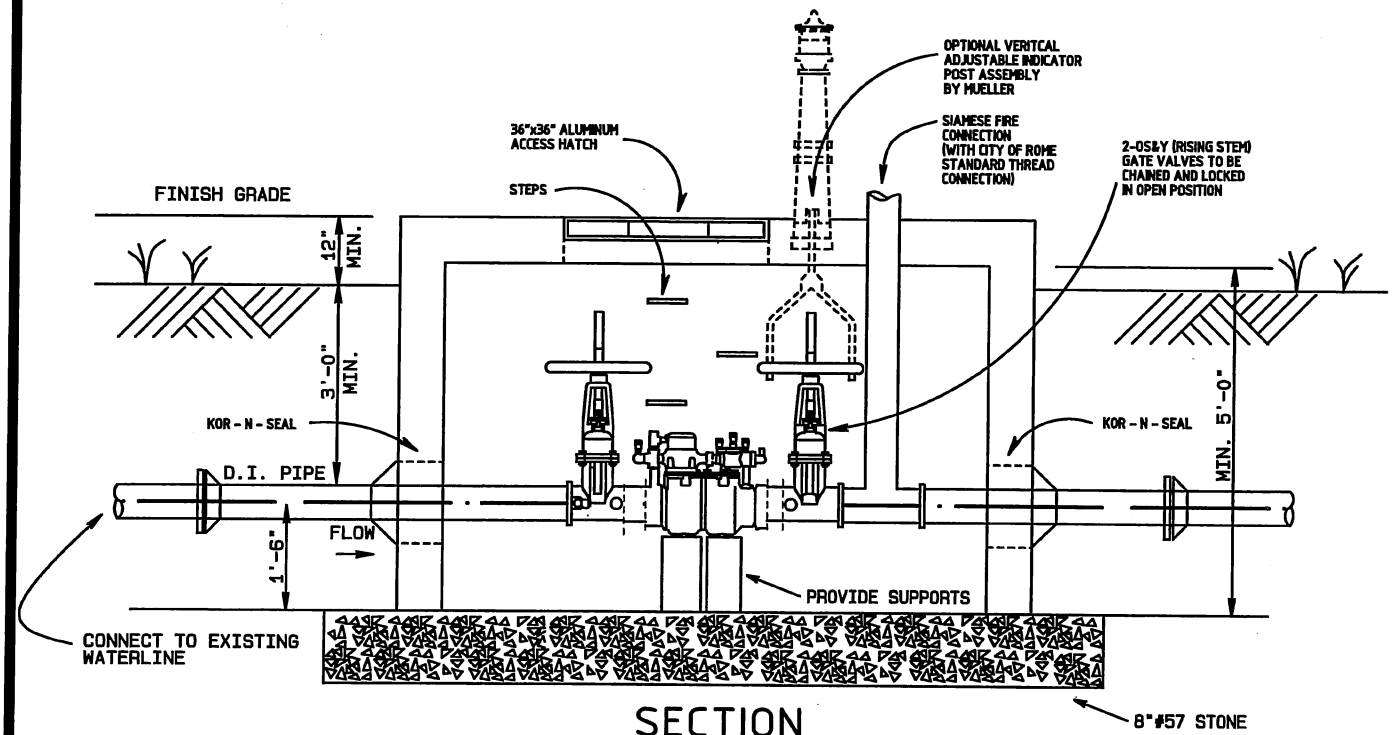
EFFECTIVE DATE: 05-01-05 **SHEET** 1 **OF** 1

FIRE LINE SERVICE & VAULT DETAIL



PLAN

N.T.S.



SECTION

N.T.S.

NOTES:

1. MECHANICAL JOINT FITTINGS SHALL BE USED OUTSIDE THE PIT AND FLANGED FITTINGS INSIDE THE PIT.
2. DOUBLE DETECTOR CHECK VALVE (DDCV) ASSEMBLY TO BE WATTS OR EQUAL.
3. DEVICE TESTING: ALL DDCV ASSEMBLIES SHALL BE TESTED AT TIME OF INSTALLATION AND AT LEAST ANNUALLY THEREAFTER BY AN APPROVED AND CERTIFIED TESTING SERVICE AND COPY OF TEST SUBMITTED TO THE CITY OF ROME WATER DEPARTMENT

A-12

CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

FIRE LINE SERVICE & VAULT DETAIL

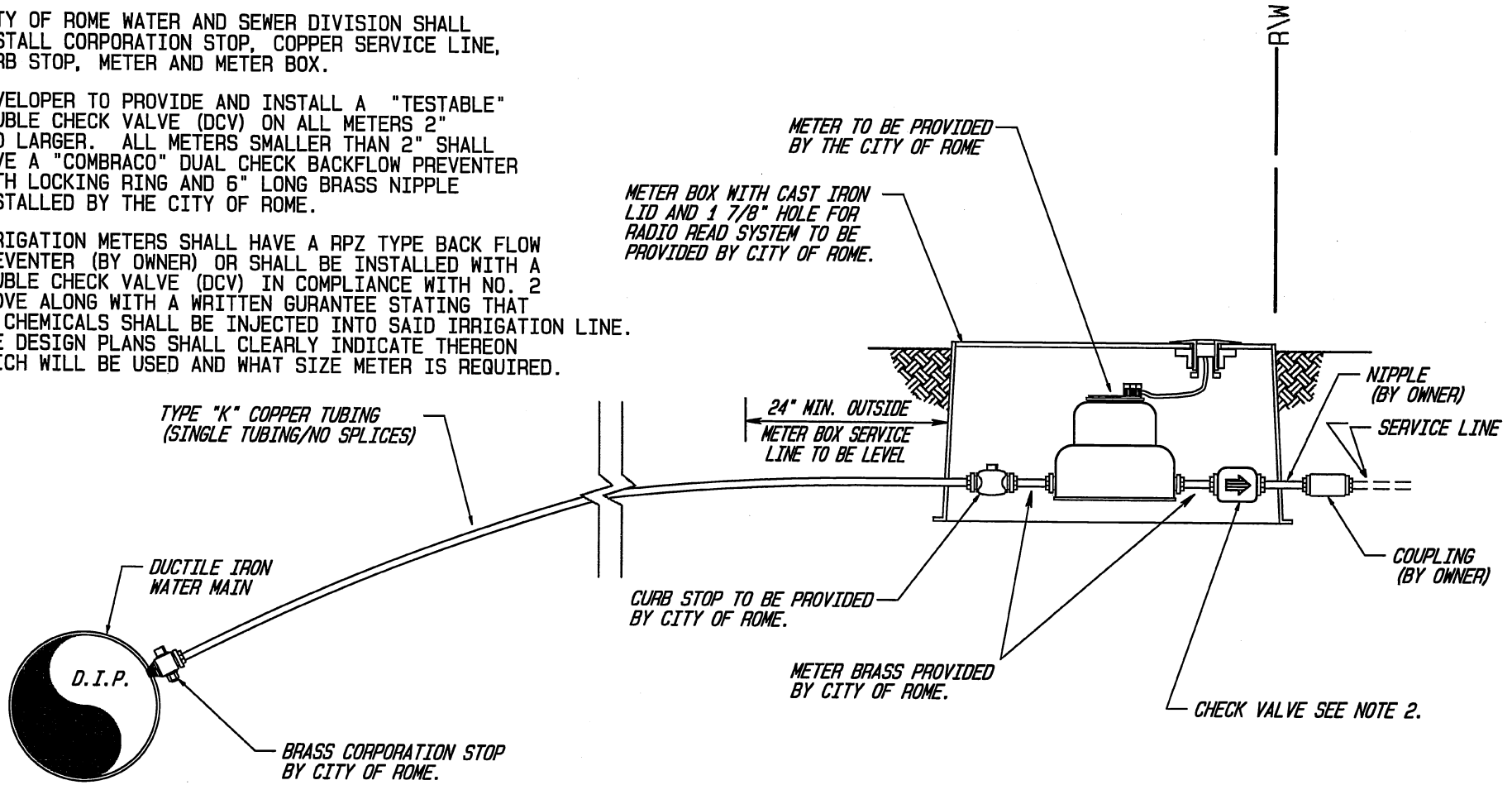
SCALE: AS SHOWN	DRAWN BY: KEH/AWC
DATE: APRIL 2009	FINAL APPROVAL:
EFFECTIVE 06/27/2012	SHEET 1 OF 1

NOTES:

1. CITY OF ROME WATER AND SEWER DIVISION SHALL INSTALL CORPORATION STOP, COPPER SERVICE LINE, CURB STOP, METER AND METER BOX.

2. DEVELOPER TO PROVIDE AND INSTALL A "TESTABLE" DOUBLE CHECK VALVE (DCV) ON ALL METERS 2" AND LARGER. ALL METERS SMALLER THAN 2" SHALL HAVE A "COMBRACO" DUAL CHECK BACKFLOW PREVENTER WITH LOCKING RING AND 6" LONG BRASS NIPPLE INSTALLED BY THE CITY OF ROME.

3. IRRIGATION METERS SHALL HAVE A RPZ TYPE BACK FLOW PREVENTER (BY OWNER) OR SHALL BE INSTALLED WITH A DOUBLE CHECK VALVE (DCV) IN COMPLIANCE WITH NO. 2 ABOVE ALONG WITH A WRITTEN GURANTEE STATING THAT NO CHEMICALS SHALL BE INJECTED INTO SAID IRRIGATION LINE. THE DESIGN PLANS SHALL CLEARLY INDICATE THEREON WHICH WILL BE USED AND WHAT SIZE METER IS REQUIRED.



A-13

TYPICAL SERVICE CONNECTION

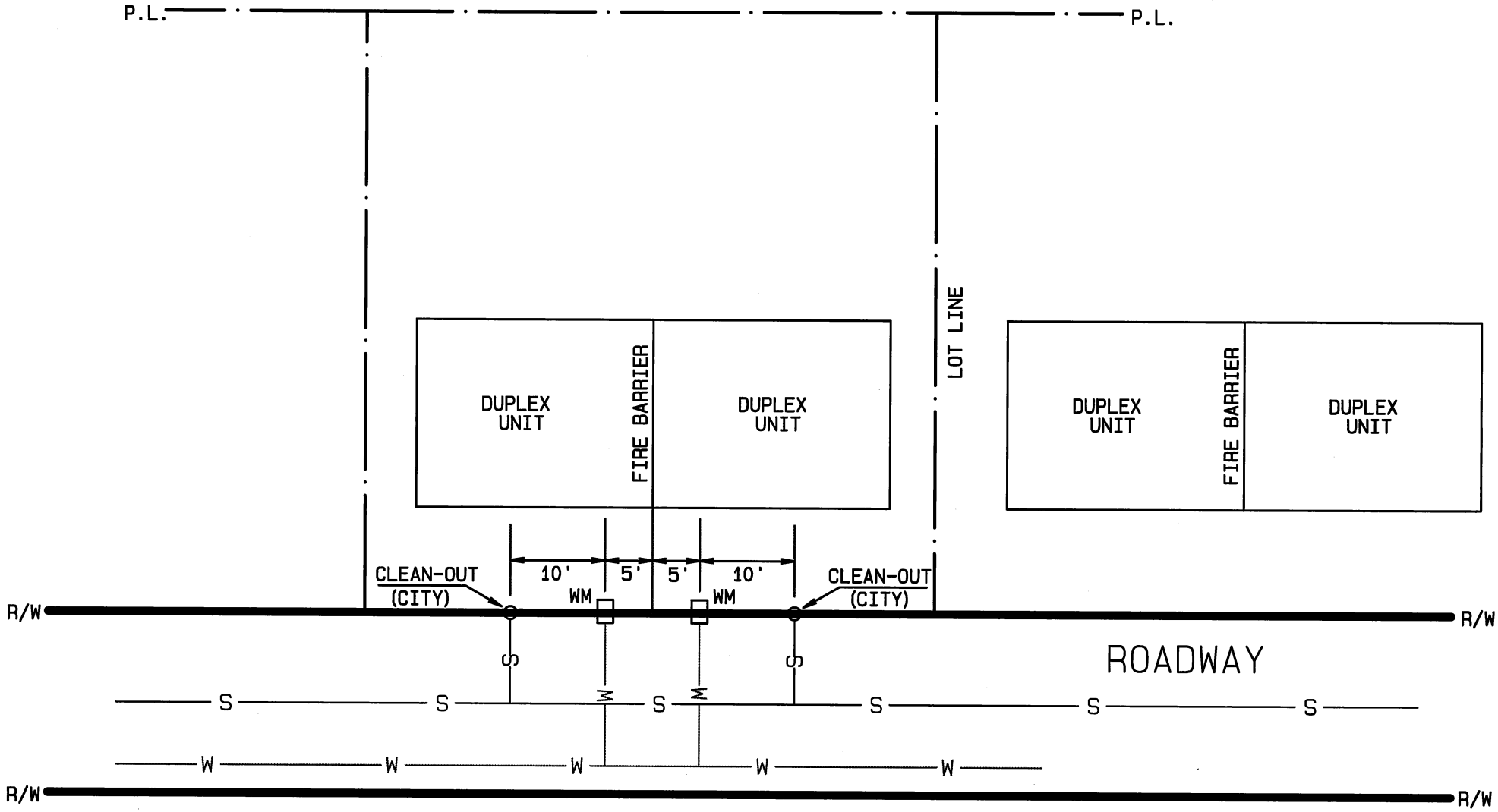
NOT TO SCALE

CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

TYPICAL WATER SERVICE CONNECTION STANDARD DETAIL (COMMERICAL)

SCALE: AS SHOWN	DRAWN BY: AWC
DATE: 06/27/12	FINAL APPROVAL:

EFFECTIVE DATE: 06-27-12 SHEET 1 OF 1



CITY OF ROME, GEORGIA
ENGINEERING DEPARTMENT

WATER AND SEWER SERVICE LOCATION
DETAIL FOR DUPLEX LOTS

SCALE: NONE	**DRAWN BY:** AWC
DATE: JUNE 9, 2004	**FINAL APPROVAL:**

EFFECTIVE DATE: 06-09-04 **SHEET** 1 **OF** 1