

# Jacksonville Beach Water and Sewer Improvements

City Bid No: 1920-11  
Bid Opening Date: 11/18/2020

## Specification Package

OCTOBER 2020

Prepared For:

City of Jacksonville Beach  
1460A Shetter Avenue  
Jacksonville Beach, Florida 32250

Prepared By:

Four Waters Engineering  
324 6th Avenue North  
Jacksonville, Florida 32250



# TABLE OF CONTENTS

## Jacksonville Beach Water and Sewer Improvements City of Jacksonville Beach

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### CONTRACT DOCUMENTS

#### SECTIONS

00010	Invitation to Bid
00200	Instructions to Bidders
00220	Information Available to Bidders
00300	Bid Proposal Form
00301-A	Subcontractor Listing
00301-B	Required Disclosure
00301-C	Trench Safety Act Compliance Form
00301-D	Bid Award Notice
00301-E	Drug-Free Workplace Compliance Form
00301-F	Non-Bankruptcy Affidavit
00410	Bid Bond
00480	Non-Collusion Affidavit Form
00500	City/Contractor Contract Agreement
00610	Performance Bond
00620	Payment Bond
00630	Insurance Requirement
00700	General Conditions
00800	Special Conditions
00844	Application for Payment

## TABLE OF CONTENTS (CONT.)

### DIVISION 1 - GENERAL REQUIREMENTS

#### SECTIONS

01000	Project Requirements
01010	Summary of Work
01025	Measurement and Payment
01065	Permit and Fees
01100	Special Project Procedures
01340	Shop Drawings, Working Drawings, and Samples
01381	Construction Audio Video Recording
01500	Temporary Facilities
01568	Temporary Erosion and Sedimentation Control
01710	Cleaning
01720	Project Record Documents

### DIVISION 2 - SITE WORK

#### SECTIONS

02105	Right-of-Way Clearing
02110	Demolition (Clearing, Grubbing, and Stripping)
02111	Demolition and Abandonment (Building, Mechanical, Pipeline, etc.)
02140	Dewatering
02200	Excavating, Backfilling and Compacting
02314	Fine Grading
02427	Sewage Manholes
02574	Pavement Removal and Replacement
02576	Cold Milling
02660	Water Distribution System

**TABLE OF CONTENTS (CONT.)**

02661	Water Valves & Appurtenances
02662	Gravity Sewers
02667	As-Built Engineering Plans
02934	Solid Sodding

DIVISION 3 - CONCRETE

NOT USED

DIVISION 4 - MASONRY

NOT USED

DIVISION 5 - METALS SECTIONS

NOT USED

DIVISION 6 - WOODS AND PLASTICS

NOT USED

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

NOT USED

DIVISION 8 - DOORS AND WINDOWS

NOT USED

DIVISION 9 - FINISHES

NOT USED

DIVISION 10 - SPECIALITIES

NOT USED

## TABLE OF CONTENTS (CONT.)

### DIVISION 11 - EQUIPMENT

NOT USED

### DIVISION 12 - FURNISHINGS

NOT USED

### DIVISION 13 - SPECIAL CONSTRUCTION

NOT USED

### DIVISION 14 - CONVEYING SYSTEMS

NOT USED

### DIVISION 15 - MECHANICAL

#### SECTIONS

15045            Pressure Testing

### DIVISION 16 - ELECTRICAL

NOT USED

### APPENDICES

Appendix A:    Florida Department of Environmental Protection Notification of Acceptance of Use of  
the General Permit for Construction of Water Main Extensions for PWSs General Permit  
Number: 0128730-179-DSGP

**SECTION 00010  
INVITATION TO BID**

**CITY OF JACKSONVILLE BEACH  
Jacksonville Beach, FL**

Sealed bids in triplicate, subject to the terms and conditions specified in this invitation, will be received until 2:00 p.m., Wednesday, November 18, 2020, and then opened publicly by the Property & Procurement Division, 1460A Shetter Avenue, 1<sup>st</sup> Floor, Jacksonville Beach, Florida, 32250 for furnishing the following:

**BID INVITATION NO: 1920-11**

**JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS**

Bid documents will be available on the City of Jacksonville Beach's website <http://www.jacksonvillebeach.org/government/departments/finance/bidrfp-rfq-listings>. Bid packages may also be purchased from the Engineer, Four Waters Engineering, Inc., 324 6<sup>th</sup> Avenue North, Jacksonville Beach, FL 32250, upon receipt of \$100.00 per set, non-refundable.

Please submit triplicate completed Bid Proposal Forms in one sealed envelope clearly marked with bid number and bid name. Place the sealed envelope within another sealed envelope clearly marked in the same manner as the first envelope. This is done to prevent accidental opening of the sealed bids in our mailroom.

No verbal interpretations will be made of any bid documents. Requests for such interpretations shall be made in writing via email to [Purchasing@jaxbchfl.net](mailto:Purchasing@jaxbchfl.net) by the end of day, November 6, 2020. Interpretation will be in the form of an addendum and issued to all bidders.

If you require further information regarding this bid, please contact Luis Flores at 904-247-6226.

CITY OF JACKSONVILLE BEACH

Luis Flores  
Property & Procurement Division  
1460A Shetter Avenue, Jacksonville Beach, FL 32250

**SECTION 00200**  
**INSTRUCTION TO BIDDERS**

**1.1 PROJECT DESCRIPTION**

The project is located at the City of Jacksonville Beach and consists of the following general improvements at four locations:

7<sup>th</sup> Avenue South: Installation of an 8-inch water main extension along 7<sup>th</sup> Avenue South from 1st Street South to east end of 7<sup>th</sup> Avenue South near the beach parking. Installations along the 8-inch water main include: a 4-inch water service assembly with bypass (meter to be provided by City), a 8-inch x 6-inch tee for a fire service connection, and a 1-inch water service for potential future shower near the beach walkover.

Shetter Avenue: Installation of 8-inch gravity sewer extension and two manholes along Shetter Avenue from an existing manhole at 6<sup>th</sup> Street South east toward 5<sup>th</sup> Street South to allow for reroute of sewer to public rights-of-way (ROW). Existing sewer laterals on the north side of Shetter Avenue will be connected to the sewer extension and a portion of the existing 6-inch clay/galv steel sewer lines abandoned. Sewer laterals from the sewer extension to the ROW line will be provided for noted properties on the south side of Shetter Avenue.

8<sup>th</sup> Avenue North: Installation of 8-inch gravity sewer extension and one manhole along 8<sup>th</sup> Avenue North from 1<sup>st</sup> Street North (stub-out from existing manhole) west toward 2<sup>nd</sup> Street North to allow for reroute of sewer to public ROW. Sewer laterals from the sewer extension to the ROW line will be provided for noted properties on the north and south sides of 8<sup>th</sup> Avenue North. The existing sewer laterals from the houses/properties will be rerouted as necessary and connected to the proposed sewer laterals at the ROW, and the remaining portion of the existing sewer laterals will be abandoned.

Burrito Gallery/AT&T and Verizon Buildings: Installation of a saddle manhole to replace a gravity main tap and sewer service tee connection for the Burrito Gallery/AT&T Store building and the Verizon building at the corner of Beach Boulevard and 3rd Street South, and north of 1st Avenue South.

The Contractor shall furnish all labor, equipment, tools, services and incidentals to complete all Work required by these Specifications and as shown on the Drawings. Contractor shall be responsible for properly unloading, storing, installing and maintaining all materials and equipment. The Contractor shall perform the Work complete, in place, and ready for continuous service, and shall include repairs, sewer bypass operations, testing, permits, cleanup, and replacements and restoration required as a result of damages caused during this construction.

Reference Section 01010 Summary of Work for additional information.

**CITY BID NO. 1920-11**  
**JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS**

**1.2 DEFINED TERMS**

- A. Terms used in the Instruction to Bidders are defined and have the meanings assigned to them in the General Conditions.

**1.3 COPIES OF BIDDING DOCUMENTS**

- A. Only complete sets of Bidding Documents will be issued and shall be used in preparing Bids. Neither the CITY nor the ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets.
- B. Completed sets of Bidding Documents may be obtained in the manner and at the location stated in the

Invitation to Bid. Any required fees are non-refundable.

#### 1.4 QUALIFICATIONS OF BIDDERS

- A. Each bid must contain either evidence of the Bidder's qualifications to do business in the area where the project is located or covenant to obtain such qualifications prior to award of Contract.
- B. To demonstrate his qualifications to perform the Work, each Bidder shall submit with his Bid written evidence as to his financial status, previous successful contractual and technical experience in similar work including references, description, and volume of present commitments, evidence of possession of, or covenant to obtain prior to award of Contract, valid state, county, and local licenses covering all operations and all areas of political jurisdiction involved in the Work of this project and such other data as may be requested by the CITY. ***No bidder/company will be issued a contract for the work, who in the past seven (7) years has filed for bankruptcy personally or has been an owner/officer or principal of a firm, which has filed bankruptcy in the past seven (7) years.***
- C. Contractor must be able to exhibit to the City of Jacksonville Beach that he can perform a minimum of 30% of the total contract work with their own labor work force. The purchase of materials and/or equipment will not be considered as part of this percentage.

#### 1.5 DISQUALIFICATIONS OF BIDDERS

- A. One Proposal: Only one Proposal from an individual firm, partnership or corporation under the same or under different names will be considered. If it is believed that a Bidder is interested in more than one Proposal for the work involved, all Proposals in which such a Bidder is interested will be rejected.
- B. Collusion Among Bidders: If it is believed that collusion exists among the Bidders, the Proposals of all participants in such collusion will be rejected and no participants in such collusion will be considered in future Proposals for the same work.

#### 1.6 EXAMINATION OF SITE CONDITIONS

- A. Each Bidder, by and through the submission of his Bid, agrees that he shall be held responsible for having theretofore examined the site, the location of all proposed work and for having satisfied himself from his own personal knowledge and experience or professional advice as to the character and location of the site, the nature of the ground, surface and subsurface, the water elevations, location of buried utilities and any other conditions surrounding and affecting the work, any obstructions, the nature of any existing construction, and all other physical characteristics of the job, in order that he may include in the prices which he bids all costs pertaining to the work and thereby provide for the satisfactory completion thereof, including the removal, relocation, or replacement of any objects or obstruction which may be encountered in doing the proposed work.
- B. Any records of contours, obstructions, and other subsurface investigations shown on the Drawings or included hereinafter, were made solely for design purposes for the work; and the CITY and his ENGINEER do not warrant, guarantee or represent that said data is correct with respect to actual subsurface conditions; therefore, the Bidder, by and through the submission of his Bid, affirms that he has made, or has caused to be made, his own test holes and/or other investigations of such subsurface conditions, and/or that he has otherwise satisfied himself with respect to such conditions; and, should the Bidder be awarded the Contract, he agrees that he will make no claims against the CITY or his ENGINEER if, in carrying out the work, he finds that the actual conditions do not conform to those indicated. The CITY will, upon request, provide each Bidder with reasonable access to the site to conduct such tests and investigations, as each Bidder deems necessary for submission of his Bid. If a Bidder obtains such access he shall restore the site to the condition existing prior to conducting said tests and investigations.
- C. The Bidder, in preparing his Bid, shall take into consideration that work by other contractors may be

in progress at or near the site during the performance of the work to which the bid relates and that he will be expected, should he be awarded a Contract, to avoid interference with work done by such other contractors and to coordinate his work with other contractors at the site.

#### **1.7 EXAMINATION OF CONTRACT DOCUMENTS**

- A. Each Bidder shall carefully examine the Drawings and Specifications and other Contract Documents, and inform himself thoroughly regarding any and all conditions and requirements, including the construction schedule, that may in any manner affect cost, progress or performance of the work to be performed under the Contract. Ignorance on the part of the CONTRACTOR will in no way relieve him of the obligations and responsibilities assumed under the Contract.
- B. Should a Bidder find discrepancies or ambiguities in, or omissions from, the Drawings or Specifications, or should he be in doubt as to their meaning, he shall at once notify the ENGINEER.

#### **1.8 INTERPRETATIONS, CLARIFICATIONS AND ADDENDA**

No oral interpretations will be made to any Bidder as to the meaning of the Contract Documents. Any inquiry or request for interpretation received by the end of day, Friday, November 6, 2020 will be given consideration. All such changes or interpretations will be made in writing in the form of an addendum and, if issued, will be mailed or sent by available means to all known prospective Bidders prior to the established bid opening date. Each Bidder shall acknowledge receipt of such addenda in the space provided therefor in the Proposal form. In case any Bidder fails to acknowledge receipt of such addenda or addendum, his Bid will nevertheless be construed as though it had been received and acknowledged and the submission of his Bid will constitute acknowledgement of the receipt of same. All addenda are a part of the Contract Documents and each Bidder will be bound by such addenda, whether or not received by him. It is the responsibility of each Bidder to verify that he has received all addenda issued before Bids are opened.

#### **1.9 INTERPRETATION OF QUANTITIES**

In the case of unit price items, the quantities of work to be done and the materials to be furnished under this Contract, as given in the Proposal, are to be considered as approximate only and are to be used solely for the comparison of Bids received. The CITY and/or his ENGINEER do not expressly or by implication represent that the actual quantities involved will correspond exactly therewith; nor shall the Bidder plead misunderstanding or deception because of such estimate or quantities or of the character, location, or other conditions pertaining to the work. Payment to the CONTRACTOR will be made only for the actual quantities of work performed or material furnished in accordance with the Drawings and other Contract Documents, and it is understood that the quantities may be increased or diminished as provided in the General Conditions without in any way invalidating any of the unit or lump sum prices bid.

#### **1.10 ALTERNATES**

When certain items of equipment and/or materials are specified and/or described as the product of a particular manufacturer together with any required additional information such as model number, size or catalog number, only such specific items may be used in preparing the Bid.

#### **1.11 GOVERNING LAWS AND REGULATIONS**

- A. The Bidder is required to be familiar with and shall be responsible for complying with all federal, state and local laws, ordinances, rules and regulations that in any manner affect the work.
- B. The Bidder shall include in his bid prices all sales, consumer, use and other taxes required to be paid in accordance with the law of the place of the project.

#### **1.12 PREPARATION OF BIDS**

- A. Signature of the Bidder: The Bidder must sign the Proposal forms in the space provided for the signature. If the Bidder is an individual, the words “doing business as \_\_\_\_\_”, or “Sole Owner” must appear beneath such signature. In the case of a partnership, the signature of at least one of the partners must follow the firm name and the words “Member of the Firm” should be written beneath such signature. If the Bidder is a corporation, the title of the officer signing the Proposal on behalf of the corporation must be stated and evidence of his authority to sign the Proposal must be submitted. The Bidder shall state in the Proposal the name and address of each person interested therein.
- B. Basis for Bidding: The price bid for each item shall be on a lump sum or unit price basis according to the Bid Proposal Form. Contractor shall bid on all the parts and alternates (if any). The bid prices shall remain unchanged for the duration of the Contract and no claims for cost escalation during the progress of the work will be considered.
- C. Price Bid: The total price bid for the work shall be the aggregate of the lump sum prices bid and/or unit prices multiplied by the appropriate estimated quantities for the individual items and shall be stated in figures in the appropriate place on the Proposal Form. In the event that there is a discrepancy on the Proposal Form due to unit price extensions or additions, the corrected extensions and additions shall be used to determine the project bid amount.

### **1.13 SUBMISSION OF BIDS**

- A. Each Proposal bid must be submitted on the Proposal Form as furnished, together with a suitable bid security as herein described.
- B. The Proposal and bid security, if required, must be submitted in a sealed envelope, which shall be marked so as to clearly indicate its contents and the name of the Bidder. If forwarded by mail, the above mentioned envelope shall be enclosed in another envelope addressed to the entity and address stated in the Invitation to Bid, and preferably by special delivery, registered mail; if forwarded otherwise than by mail, it shall be delivered to the same address. Proposals will be received until the date and hour stated in the Invitation to Bid.
- C. Each Bidder must submit with his Proposal an accompanying letter in which he shall list the names and addresses of his major subcontractors together with the services they will supply. These subcontractors will be subject to review as to their competency by the CITY prior to award of Contract and shall be one of the considerations in determining the successful Bidder. After award of Contract, no change in subcontractors shall be made unless approved by the CITY after a request for such a change has been submitted in writing by the CONTRACTOR, which shall include the reasons for such request.
- D. Each Bidder shall submit with his Proposal the required evidence of his qualifications, experience and financial status as outlined in Article 1.4. The apparent low Bidder may be required to provide evidence as to his financial status, previous successful contractual and technical experience in similar work including references, description, and volume of present commitments, evidence of possession of, or covenant to obtain prior to award of Contract, valid state, county, and local licenses covering all operations and all areas of political jurisdiction involved in the Work of this project and such other data as may be requested by the CITY.

### **1.14 BID SECURITY**

- A. Each Proposal must be accompanied by a cashier’s check or Bid Bond in an amount not less than five percent (5%) of the amount of the Bid. The bid security of all Bidders will be returned within ten (10) days after the CITY and the accepted Bidder have executed the written Contract and the accepted Bidder has filed an acceptable bond. If thirty (30) days have passed after the date of the receipt of the Bids and no Contract has been awarded, the bid security of any Bidder will be returned on demand, provided that the Bidder has not been notified of the acceptance of his Bid.

- B. Attorneys-in-Fact who sign Bid Bonds must file with such bonds a certified copy of their Power of Attorney to sign said Bonds.
- C. Failure of the accepted Bidder to execute a Contract and file acceptable bonds as provided herein within ten (10) days after a written Notice of Award has been given shall be just cause for the annulment of the award and forfeiture of the bid security to the CITY, which forfeiture shall be considered not as a penalty, but in liquidations of damages sustained. Award may then be made to another Bidder or all Bids may be rejected.

#### **1.15 WITHDRAWAL OF BID**

- A. Any Bid may be withdrawn prior to the time scheduled in the Invitation to Bid for the opening thereof. A Bid may also be withdrawn ninety (90) days after the date of the opening of the Bids, provided that the Bidder has not been notified that his Bid has been accepted.

#### **1.16 MODIFICATION OF BIDS**

- A. Written bid modification will be accepted from Bidders if addressed to the entity and address indicated in the Invitation to Bid and received prior to Bid due time and date.
- B. A Bidder may modify his Bid by telegraphic communication at any time prior to the scheduled closing time for receipt of Bids, provided such telegraphic communication is received prior to the closing time, and provided further, that CITY is satisfied that a written communication of the telegraphic modification over the signature of the Bidder was mailed prior to the closing time. The telegraphic communication should not reveal bid price, but should provide the addition or subtraction or other modification so that the final prices or terms will not be known until the sealed Bid is opened. If written confirmation is not received within two days from the closing time, no consideration will be given to the telegraphic modification.

#### **1.17 RECEIPT AND OPENING OF BIDS**

- A. Bids will be received until the designated time and will be publicly opened and read aloud at the appointed time and place stated in the Invitation to Bid. The person whose duty is to open them will decide when the specified time has arrived and no Bids received thereafter will be considered. No responsibility will be attached to anyone for the premature opening of a Bid not properly addressed and identified. Bidders or their authorized agents are invited to be present.

#### **1.18 DETERMINATION OF SUCCESSFUL BIDDER**

- A. For the purpose of award, the correct summation of the lump sum prices and/or of the products of the estimated quantities shown in the Proposal and the unit prices will be considered the Bid. The amounts then will be compared and the results of such comparison made available to the public. Until the final award of the Contract, the CITY does not bind himself to accept the minimum Bid stated herein, but reserves the right to reject any and all Bids and to waive technical errors and irregularities as may be deemed best for the interests of the CITY. Bids, which contain modifications, are incomplete, unbalanced, conditional, obscure, or which contain additions not requested or irregularities of any kind, or which do not comply in every respect with the Instructions to Bidders, and the Contract Documents, may be rejected at the option of the CITY. In project bids that have multiple parts and/or alternates, Bidders must submit a price for all parts/alternates within the bid proposal. The CITY may elect to award the contract based on the base bid and any alternate(s) in the best interest of the CITY.

#### **1.19 AWARD OF CONTRACT**

- A. The CITY reserves the right to reject any or all Bids, or any part of any Bid and/or alternate(s), to waive any informality in any Bid, or to readvertise for all or part of the work contemplated. The CITY reserves

the right, prior to award of Contract, to delete from the scope of the project any item or any combination of items from the total bid price for the project. If Bids are found to be acceptable by the CITY, written notice will be given to the lowest responsible Bidder of the acceptance of his Proposal and of the award of the Contract to him.

- B. If a Bidder to whom a Contract is awarded forfeits his bid security and the award of the Contract is annulled, the CITY may then award the Contract to another Bidder or the work may be readvertised or may be constructed by day labor as the CITY decides.
- C. The Contract will be awarded to the lowest responsible qualified Bidder complying with the applicable conditions of the Contract Documents.
- D. The ability of a Bidder to obtain a performance bond shall not be regarded as the sole test of such Bidder's competence or responsibility.
- E. The CITY also reserves the right to reject the Proposal of a Bidder who has previously failed to perform properly or to complete Contracts of a similar nature on time.

#### **1.20 EXECUTION OF CONTRACT**

- A. The Bidder to whom a Contract is awarded will be required to return to the CITY, three (3) executed counterparts of the prescribed Contract together with the required Performance and Payment Bonds and the required Certificates of Insurance within ten (10) days from the date of Notice of Acceptance of the Bidder's Proposal.

#### **1.21 PERFORMANCE AND PAYMENT BONDS**

- A. Simultaneously with his delivery of the executed Contract to the CITY, a Bidder to whom a Contract has been awarded must deliver to the CITY executed Performance and Payment Bonds on the prescribed forms each in an amount of one-hundred percent (100%) of the total amount of the accepted Bid, as security for the faithful performance of his Contract and for the payment of all persons performing labor or furnishing materials in connection therewith. The Performance and Payment Bonds shall have as the surety thereon only such surety company or companies as are authorized to write bonds of such character and amount under the laws of the State of Florida and with a resident agent in the county in which the project is located. The Attorney-in-Fact, or other officer who signs the Performance and Payment Bonds for a surety company must file with such bonds a certified copy of his Power-of-Attorney authorizing him to do so.
- B. The Performance and Payment Bonds shall remain in force for one (1) year from the date of final acceptance of the work as a protection to the CITY against losses resulting from latent defects in materials or improper performance of work under Contract, which may appear or be discovered during that period.
- C. Qualification of Sureties shall be as described in the General Conditions.

#### **1.22 CERTIFICATES OF INSURANCE**

Simultaneously with his delivery of the executed Contract to the CITY, the Bidder to whom a Contract has been awarded shall deliver to the CITY the required Certificate of Insurance and endorsements on the prescribed form certifying insurance coverage in amounts not less than the limits of liability and coverages provided in Section 00630: Insurance Specifications and Section 00500: Contract Agreement, or required by law, whichever is greater.

**END OF SECTION**

**SECTION 00220**  
**INFORMATION AVAILABLE TO BIDDERS**

**1.1 Utilities**

Existing utilities have been shown on the Drawings insofar as information is reasonably available: however, it will be the Contractor's responsibility to preserve all existing utilities whether shown on the Drawings or not. If utility conflicts are encountered by the Contractor during construction, he shall give sufficient notice to the City so that he may make the necessary adjustments. Damage to any utilities, which, in the opinion of the City and Engineer, is caused by carelessness on the part of the Contractor, shall be repaired at the Contractor's expense. Any delays ensuing from this damage will be considered inexcusable.

**END OF SECTION**

**SECTION 00300  
BID PROPOSAL FORM**

**Date:** \_\_\_\_\_

**Proposal of Bidder:** \_\_\_\_\_

**Business Address:** \_\_\_\_\_  
\_\_\_\_\_

**City Bid No.: 1920-11**

**Project Name: Jacksonville Beach Water and Sewer Improvements**

**To:** City of Jacksonville Beach  
Purchasing Department  
1460A Shetter Avenue  
Jacksonville Beach, Florida 32250

The undersigned, as Bidder, hereby declares that the only person or persons interested in the Proposal, as principal or principals, is or are named herein and that no other person than herein mentioned has any interest in the Proposal of the Contract to which the work pertains; that this Proposal is made without connection or arrangement with any other person, company, or parties making a bid or proposal and that the Proposal is in all respects fair and made in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the work and that from personal knowledge and experience, or that he has made sufficient test holes and/or other subsurface investigations to fully satisfy himself that such site is a correct and suitable one for this work and he assumes full responsibility therefore; that he has examined the Drawings and Specifications for the work and from his own experience or from professional advice that the Drawings and Specifications are sufficient for the work to be done and he has examined the other Contract Documents and all addenda relating thereto, and that he has satisfied himself fully, relative to all matters and conditions with respect to the work to which this Proposal pertains.

The Bidder proposes and agrees, if this Proposal is accepted, to contract with the City of Jacksonville Beach, Florida, in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, transportation, and labor and to perform all work necessary to complete the work specified in the Proposal and other Contract Documents.

The Bidder further proposes and agrees to comply in all respects with the time limits for commencement and completion of the work as stated in the Contract Form.

The Bidder further agrees that the deductions for liquidated damages, as stated in the Contract Form, constitute fixed, agreed, and liquidated damages to reimburse the City for additional costs to the City resulting from the work not being completed within the time limit stated in the Contract Form.

The Bidder further agrees to execute a contract and furnish satisfactory Performance and Payment Bonds, each in the amount of one-hundred percent of the Contract price, and the required Certificates of Insurance, within ten consecutive calendar days after written notice being given by the City of the award of the Contract, and the undersigned agrees that in case of failure on his part to execute the said Contract and Performance and Payment Bonds within the ten consecutive calendar days after the award of the Contract, the bid guarantee accompanying his bid and the money payable thereon shall be paid to the City as liquidation of damages sustained by the City; otherwise, the bid guarantee shall be returned to the undersigned after the Contract is signed and the Performance and Payment Bonds are filed.

The undersigned agrees to accept in full compensation for completion of the project in full compliance with the Contract Documents, the total of the lump sum prices and extended unit prices for the items named in the following schedule. It is understood that the unit prices quoted or established for a particular item are to be used for computing the amount to be paid to the Contractor, based on the quantities actually constructed as determined by the applicable measurement and payment portion of the specifications.

Bidder's General Contractor's License No. \_\_\_\_\_

Bidder's Underground Utility License No. \_\_\_\_\_

Authorized Company Representative Signature: \_\_\_\_\_

Name and Address of Surety or Sureties who will sign Bonds:

Performance Bond \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Payment Bond \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

For authorized addition or deletion of quantities of work items to/from those indicated by the Contract Documents, the unit prices shall apply.

Acknowledgement is hereby made of the following Addenda received since issuance of Plans and Specifications:

Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_ Addendum No. \_\_\_\_\_ Dated: \_\_\_\_\_

**Bid Document Checklist: The following documents are to be completed, signed and submitted as part of the Project Bid Proposal Documents. Failure to provide the listed documents may be cause for rejection of the submitted bid.**

- [ ] **Section 00301-A Subcontractor Listing**
- [ ] **Section 00301-B Required Disclosure**
- [ ] **Section 00301-C Letter of Compliance with the Florida Trench Safety Act**
- [ ] **Section 00301-D Bid Award Notice**
- [ ] **Section 00301-E Signed Drug-free Workplace Compliance Form**
- [ ] **Section 00301-F Non-Bankruptcy Affidavit**
- [ ] **Section 00410 - Bid Bond**
- [ ] **Section 00480 - Signed Non-Collusion Affidavit**

- [ ] Copy of Occupational License
- [ ] Completed and Signed W-9 Form – may be obtained on line from [www.irs.gov](http://www.irs.gov)
- [ ] Documentation to demonstrate his qualifications to perform the work as required in Section 00200 – Instructions to Bidders, Section 1.4 – Qualifications Of Bidders, Paragraph B.

**Please check off each document and attach to the Bid Proposal Form.**

**BID SCHEDULE**  
**JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS**

Item No.	M&P No.	Item	Qty	Unit	Unit Price	Contract Price
<b>7th Avenue S. Water System Improvements</b>						
1	2	8" C-900 PVC (DR18) Water Main via Open Cut	140	LF	\$	\$
2	2	2" PVC (SDR21) Water Main via Open Cut	15	LF	\$	\$
3	3	8"X8" SS Tapping Sleeve & Valve with Box & Cover	1	EA	\$	\$
4	4	2" Flushing Assembly	1	EA	\$	\$
5	5	8" DI MJ Plug (Dead End) with 2" Tap	1	EA	\$	\$
6	5	6" DI MJ Plug	1	EA	\$	\$
7	5	8"x6" DI MJ Tee	1	EA	\$	\$
8	5	8"x4" DI MJ Tee	1	EA	\$	\$
9	6	8" Case B Utility Conflict with (4) 8" DI MJ 45 Degree Bends	1	LS	\$	\$
10	7	4" Water Service Assembly	1	LS	\$	\$
11	8	1.5" Irrigation Water Service and Meter Box (Contingency)	1	LS	\$	\$
12	8	1" Water Service and Meter Box	1	LS	\$	\$
13	19	Remove Existing Palm Trees (3)	1	LS	\$	\$
<b>Shetter Avenue Sewer System Improvements</b>						
14	9	Type "A" Manhole w/ Spectrashield Liner (6' to 8' Depth) and Connections	2	EA	\$	\$
15	10	Core Drill and Connect to Existing Manhole & Spectrashield Liner Repair	1	LS	\$	\$
16	12	6" Cleanout Assembly	1	EA	\$	\$
17	12	4" Cleanout Assembly	2	EA	\$	\$
18	13	8" PVC (SDR26) Gravity Main via Open Cut (6' to 8' Depth)	260	LF	\$	\$
19	14	6" Sewer Service Lateral (Sewer Main to ROW)	2	EA	\$	\$
20	16	Removing Existing Cleanout Assembly	2	EA	\$	\$
21	17	Abandoning Existing 6" Gravity Sewer by Grout Fill and Cap	320	LF	\$	\$
<b>8th Avenue North Sewer System Improvements</b>						
22	9	Type "A" Manhole w/ Spectrashield Liner (0' to 6' Depth) and Connections	1	EA	\$	\$
23	11	8" Gravity Sewer Main Connection to Existing Stubout	1	LS	\$	\$
24	12	4" Cleanout Assembly	8	EA	\$	\$
25	13	8" PVC (SDR26) Gravity Main via Open Cut (0' to 6' Depth)	210	LF	\$	\$
26	14	6" Sewer Service Lateral (Sewer Main to ROW)	8	EA	\$	\$
27	16	Removing Existing Cleanout Assembly	1	EA	\$	\$
28	17	Abandoning Existing 6" Gravity Sewer by Grout Fill and Cap	75	LF	\$	\$
29	18	Abandoning Existing 4" Gravity Sewer by Cap	2	EA	\$	\$
30	15	On-Site Sewer Service Reversal and Abandon Existing Sewer Service (121 8th Avenue N.)	1	LS	\$	\$
31	15	On-Site Sewer Service Reversal and Abandon Existing Sewer Service (115 8th Avenue N.)	1	LS	\$	\$
32	15	On-Site Sewer Service Reversal and Abandon Existing Sewer Service (109 8th Avenue N.)	1	LS	\$	\$
33	15	On-Site Sewer Service Reversal and Abandon Existing Sewer Service (118 8th Avenue N.)	1	LS	\$	\$
34	15	On-Site Sewer Service Reversal and Abandon Existing Sewer Service (120 8th Avenue N.)	1	LS	\$	\$
35	15	On-Site Sewer Service Reversal and Abandon Existing Sewer Service (122 8th Avenue N.)	1	LS	\$	\$
36	15	On-Site Sewer Service Reversal and Abandon Existing Sewer Service (130 8th Avenue N.)	1	LS	\$	\$

Item No.	M&P No.	Item	Qty	Unit	Unit Price	Contract Price
<b>Burrito Gallery and Verizon Buildings Sewer System Improvements</b>						
37	9	Saddle Manhole w/ Spectrashield Liner (8' to 10' Depth) and Service Connections	1	LS	\$	\$
38	14	6" Sewer Service Lateral Extension (Existing to Saddle MH)	2	EA	\$	\$
<b>Restoration (Entire Project)</b>						
39	20	Remove and Restore Sod	300	SY	\$	\$
40	21	Remove and Restore Gravel/Rock (6" Thickness)	115	SY	\$	\$
41	22	Remove and Restore Concrete Curb and Gutter	50	LF	\$	\$
42	23	Remove and Restore Concrete Sidewalk and Ramp	24	SY	\$	\$
43	24	Remove and Restore Asphalt Pavement and Pavement Markings	25	SY	\$	\$
44	25	Remove and Restore Asphalt Pavement, Base and Subbase	361	SY	\$	\$
45	26	Milling and Resurfacing (1.5" Thickness) and Restore Asphalt Pavement Markings	954	SY	\$	\$
47	27	Disposal and Replacement (with A-3 Sand) of Unsuitable Soils (Contingency)	3	CY	\$	\$
<b>General</b>						
48	1	Performance and Payment Bond (1.5% Maximum of Items No. 1 – 47)	1	LS	\$	\$

**TOTAL BID ITEMS NO. 1 – 48 (In Figures)** \$ \_\_\_\_\_

**TOTAL BID ITEMS NO. 1 – 48 (In Words)** \_\_\_\_\_

**NAMED EQUIPMENT/MATERIAL SUPPLIER LIST:**

The bidder shall designate in its Bid which supplier and / or manufacturer the Bidder intends to use (in the event an alternate is not accepted). This is a requirement in order for the bid form to be complete and accepted by the City.

The Bidder proposes the following for the equipment or material categories so identified:

<b>Equipment or Material Item</b>	<b>Specification Section</b>	<b>Supplier/Manufacturer (List One Only per Item)</b>
N/A this project		

**SECTION 00301-A  
SUBCONTRACTOR LISTING**

List proposed Subcontractors to be used for this Project regardless of racial or gender grouping in accordance with Section 00200 – Instructions Available To Bidders: Paragraph 1.13 – Submission of Bids. C. of the Contract Specifications.

<u>Firm Name Address and Telephone number</u>	<u>Trade</u>	<u>Estimate Dollar Amount</u>
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____
* _____ _____ _____	_____	\$ _____

Project Title: \_\_\_\_\_

Contractor: \_\_\_\_\_

Address: \_\_\_\_\_

City, State: \_\_\_\_\_

\*Use additional sheets if necessary.

**END OF SECTION**



**SECTION 00301-C  
LETTER OF COMPLIANCE WITH  
THE FLORIDA TRENCH SAFETY ACT**

Date: \_\_\_\_\_

NAME OF BIDDER: \_\_\_\_\_

TO: \_\_\_\_\_, OWNER

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

**RE: CITY BID NO. 1920-11 JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS**

GENTLEMEN:

This letter is written to give assurances that as Contractor for the above-noted construction, we will comply with the applicable trench safety standards during the Work of this Contract.

We have considered the costs per linear foot for Trench Safety Measures and the cost per square foot for special shoring requirements, and have incorporated these costs into the various items on the Bid Form.

Consistent with the Florida, "Trench Safety Act", the following are separately-stated components of the various items:

Trench Safety Measure <u>Description</u>	<u>Unit of Price</u>	<u>Quantity</u>	<u>Unit of Price</u>	<u>Amount</u>
A. _____	_____	_____	_____	_____
B. _____	_____	_____	_____	_____
C. _____	_____	_____	_____	_____
D. _____	_____	_____	_____	_____

In case quantities for Trench Safety Measures are understated, we shall provide the required quantities paid for by the margin already built into the Contract price, and in case quantities are overstated we will retain the excess amount and add it to changes in our margin. This provision shall in no way affect the Conditions of Contract relating to changes in the work or adjustments for differences between estimated Quantities in the Bid Form and measure-in-place completed work.

In case we subcontract any portion of the Work, which is subject to the "Trench Safety Act", we will be responsible for obtaining cost data and assurances of compliance with applicable trench safety standards from the subcontractor.

NAME OF BIDDER: \_\_\_\_\_

Sincerely,

\_\_\_\_\_, CONTRACTOR

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



# City of Jacksonville Beach

1460A Shetter Avenue, Jacksonville Beach, FL 32250, (904) 247-6229

## **SECTION 00301-D BID AWARD NOTICE FORM**

\*\*\*\*\*  
ITEMS BELOW TO BE COMPLETED BY THE CITY OF JACKSONVILLE BEACH  
\*\*\*\*\*

**NOTICE: Items 1 to 6 are to be completed by the Bidder. The Bidder to submit the form to the City along with the Bid Documents.**

1. \_\_\_\_\_  
Company Name

2. \_\_\_\_\_  
Address

3. \_\_\_\_\_  
City, State and Zip

4. Attention: \_\_\_\_\_

5. Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

6. E-mail address: \_\_\_\_\_

PLEASE PRINT CLEARLY

Bids were received and awarded for Bid No. 1920-11 per attached award memorandum and Bid tabulation sheet(s).

**If awarded Bid please do not proceed with any orders or services prior to receiving an official City of Jacksonville Beach Purchase Order.**

Thank you for your bid.

Sincerely,

CITY OF JACKSONVILLE BEACH

/s/Luis Flores  
Property & Procurement

**SECTION 00301-E  
DRUG-FREE WORKPLACE COMPLIANCE FORM**

IDENTICAL TIE BIDS - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids, which are equal with respect to price, quality and service, are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

- 1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- 2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation and employee assistance programs and the penalties that may be imposed upon employees for drug abuse violations.
- 3) Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- 4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
- 5) Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- 6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

---

Vendor's Signature

**SECTION 00301-F  
NON-BANKRUPTCY AFFADAVIT**

STATE OF \_\_\_\_\_ )

S  
S

COUNTY OF \_\_\_\_\_ )

\_\_\_\_\_ is an officer and member of the firm of \_\_\_\_\_, being first duly sworn, deposes and states that;

1. The subsequent certification statement is a true and accurate statement as of the date shown below.
2. The affiant understands that the intentional inclusion of false, deceptive or fraudulent statements on this Non-Bankruptcy Affidavit constitutes fraud; and, that the City of Jacksonville Beach, Florida, considers such action on the part of the affiant to constitute good cause for denial, suspension, revocation, disqualification, or rejection of the bid for CITY BID NO: 1920-11 Jacksonville Beach Water and Sewer Improvements
3. Certification Statement: This is to certify that the aforementioned firm has not filed for bankruptcy in the past seven (7) years and that no owner/officer or principal of the aforementioned firm has filed for bankruptcy personally in the past seven (7) years or has been an owner/officer or principal of a firm which has filed for bankruptcy in the past seven (7) years.

\_\_\_\_\_  
Affiant Signature

Sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by \_\_\_\_\_.  
(Name of affiant)

He/She is personally known to me or has produced \_\_\_\_\_ as identification.

\_\_\_\_\_  
Signature of Notary

\_\_\_\_\_  
Notary's Printed Name

\_\_\_\_\_  
Expiration of Notary's Commission

Affix Seal Here

**SECTION 00410  
BID BOND**

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, \_\_\_\_\_ as Principal, and \_\_\_\_\_ as Surety, are hereby held and firmly bound unto the City of Jacksonville Beach as City in the penal sum of, (5 percent of the Contract Bid) \_\_\_\_\_ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed, this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

The condition of the above obligation is such that whereas the Principal has submitted to the City a certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the City of Jacksonville Beach,

**CITY OF JACKSONVILLE BEACH**  
Bid Number: 1920-11  
Jacksonville Beach Water and Sewer Improvements

NOW THEREFORE,

- (a) If said Bid shall be rejected, or in the alternate,
- (b) If said principal shall not withdraw said bid within ninety (90) days after date of opening of the same, and shall within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with the City in accordance with the bid as accepted, and give bonds with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract, then this obligation shall be void; otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be no way impaired or affected by an extension of the time within which the City may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their several seals, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, A.D., the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS: (If Sole Ownership or Partnership, two (2) Witnesses required.)  
(If Corporation, Secretary only will attest and affix seal.)

PRINCIPAL:

WITNESSES:

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Signature of Authorized Officer  
(Affix Seal)

Title

Business Address

City State

SURETY:

Corporate Surety

Attorney-in-Fact  
(Affix Seal)

Business Address

City State

WITNESS:

\_\_\_\_\_

\_\_\_\_\_  
Name of Local Insurance Agency

I, \_\_\_\_\_, certify that I am the Secretary of the Corporation named as Principal in the within bond; that \_\_\_\_\_ who signed the said bond on behalf of the Principal, was then \_\_\_\_\_ of said corporation; that I know his signature, and his signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said corporation by authority of its governing body.

\_\_\_\_\_  
(Corporate Secretary Seal)

STATE OF FLORIDA )

ss

COUNTY OF )

Before me, a Notary Public duly commissioned, qualified and acting, personally appeared \_\_\_\_\_ to me well known, who being by me first duly sworn upon oath, says that he is the Attorney-in-Fact, for the \_\_\_\_\_ and that he has been authorized by \_\_\_\_\_ to execute the foregoing bond on behalf of the Contractor named therein in favor of the City, the \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, A.D.

(Attach Power-of-Attorney  
to original Bid Bond)

\_\_\_\_\_  
Notary Public  
State of Florida-at-Large

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

**END OF SECTION**

**SECTION 00480  
NON-COLLUSION AFFADAVIT**

STATE OF )  
                  SS  
COUNTY OF )

\_\_\_\_\_, being first duly sworn deposes and says that:

1. He (it) is the \_\_\_\_\_,  
of the Bidder that has submitted the attached Bid;
2. He is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;
3. Such Bid is genuine and is not a collusive or sham Bid;
4. Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employee, or parties in interest, including this affidavit, have in any way, colluded, conspired, connived or agreed, directly or indirectly, with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted; or to refrain from bidding in connection with such Contract; or have in any manner, directly or indirectly, sought by agreement or collusion or communication, or conference with any Bidder, firm, or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit, or cost elements of the Bid price or the Bid price in any other Bidder, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed Contract;
5. The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any other of its agents, representatives, owners, employees or parties in interest, including his affidavit.

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

Sworn and subscribed to before me this \_\_\_\_\_ day of \_\_\_\_\_,

20\_\_\_\_, in the State of \_\_\_\_\_, County of \_\_\_\_\_.

\_\_\_\_\_ Notary Public

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

**END OF SECTION**

**SECTION 00500**  
**CITY/CONTRACTOR CONTRACT AGREEMENT**

CONTRACT AGREEMENT  
for City Bid No. 1920-11  
City of Jacksonville Beach, Property and Procurement

TITLE: Jacksonville Beach Water and Sewer Improvements

---

**CONTRACT AGREEMENT**

THIS AGREEMENT made and entered into this \_\_\_\_\_ day of \_\_\_\_\_ by and between the CITY OF JACKSONVILLE BEACH, FLORIDA, a municipality organized and existing under the laws of the State of Florida, hereinafter called CITY, and \_\_\_\_\_, hereinafter called CONTRACTOR:

WITNESSETH:

CITY and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

**Article 1: Scope of Work**

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

**CITY BID NO. 1920-11**

**JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS  
FOR  
THE CITY OF JACKSONVILLE BEACH, FLORIDA.**

All Work shall be performed in accordance with the Specifications titled "JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS." Services shall be for all materials, equipment and services, including labor to perform the installation, of which the requirements and scope of services is detailed in:

Exhibit "A", Bid Form, Project Plans and Specifications, "JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS".

**Article 2: CITY'S Responsibility**

Access to Work Area: The CITY shall provide the CONTRACTOR access to all areas in which services are to be performed.

**Article 3: Terms of Agreement**

The CONTRACTOR shall complete the total contract within **one hundred and twenty (120)** consecutive calendar days after Notice to Proceed is given. Project construction shall be phased and completed as identified in Section 01010 Summary of Work.

It is mutually agreed that time is of the essence and should the CONTRACTOR fail to complete the work within the specified time, or any authorized extension thereof, there shall be deducted from the compensation otherwise to be paid to the CONTRACTOR, and the CITY will retain the

amount of Five Hundred Dollars (\$500) per calendar day as fixed, agreed, and liquidated damages for each calendar day elapsing beyond the specified time for completion or any authorized extension thereof, which sum shall represent the actual damages which the CITY will have sustained by failure of the CONTRACTOR to complete the work within the specified time; it being further agreed that said sum is not a penalty, but is the stipulated amount of damages sustained by the CITY in the event of such default by the CONTRACTOR.

#### **Article 4: Nonexclusive Contract**

Nothing herein is intended nor shall be construed as creating any exclusive arrangement with the CONTRACTOR. This Contract shall not restrict the CITY from acquiring similar, equal or like goods and/or services from other entities or sources.

#### **Article 5: Payment to Contractor**

The CONTRACTOR agrees to provide services as described in the CONTRACT DOCUMENTS and comply with the terms therein.

5.1 *For Basic Services:* CITY shall pay CONTRACTOR for Contractual Services performed or furnished under the

**Exhibit “A”, Bid Form, Project Plans and Specifications, “JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS.”**

5.2 *For Additional Services:* Notwithstanding the scope of work enumerated in

**Exhibit “A”, Bid Form, Project Plans and Specifications, “JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS”,**

The CONTRACTOR will, upon written request from the CITY, provide any and all other services normally falling within the services offered by the CONTRACTOR. In advance of performance of additional services, CITY and CONTRACTOR shall agree in writing to the additional services and negotiated price, consistent with the type of services requested.

5.3 *Invoices.*

A. *Preparation of Invoices:* Invoices will be prepared by CONTRACTOR in triplicate on AIA Documents G702 and G703 and submitted to CITY by CONTRACTOR unless otherwise agreed. The amount billed in each invoice will be calculated as set forth herein. Ten percent (10%) retainage will be withheld until such time as the project has been 50% completed at which time, the retainage will be reduced to 5% until all As-Built plans, Release of Liens and all other required close-out documents are provided to and approved by the CITY.

B. *Payment of Invoices:* Invoices are due and payable within 30 days of receipt.

C. *Disputed Invoices:* In the event of a disputed or contested invoice, only that portion so contested may be withheld from payment, and the undisputed portion will be paid.

5.4 *Payment Upon Termination:* In the event of termination, CONTRACTOR will be entitled to be paid for all services performed or furnished through the effective date of termination.

*5.5 Records of CONTRACTOR'S cost:* Records of CONTRACTOR'S cost pertinent to CONTRACTOR'S compensation under this Agreement shall be kept in accordance with generally accepted accounting practices. Upon the CITY'S request, copies of such records will be made available by the CONTRACTOR to the CITY, at no cost to the CITY.

#### **Article 6: Standards of Performance**

CONTRACTOR and CITY shall comply with applicable Laws, Regulations, and CITY -mandated standards. This Agreement is based on these requirements as of its Effective Date and includes the attached:

**Exhibit "A", Bid Form, Project Plans and Specifications, "JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS",**

Changes to these requirements after the Effective Date may be the basis for modifications to CONTRACTOR'S scope of work, times of performance, or compensation.

#### **Article 7: Contractor as Independent Contractor**

It is expressly agreed and understood that the CONTRACTOR is in all respects, an independent contractor as to the WORK and is in no respect an agent, servant, or employee of the CITY. This Agreement specifies the WORK to be done by the CONTRACTOR, but the method to be employed to accomplish the WORK shall be the responsibility of the CONTRACTOR.

#### **Article 8: Subcontracting**

CONTRACTOR may subcontract services to be performed hereunder with prior approval of the CITY. No such approval will be construed as making the CITY a party of or to such subcontract, or subjecting the CITY to liability of any kind to any subcontract. No subcontract shall, under any circumstances, relieve the CONTRACTOR of its liability and obligation under this Agreement; and despite any such subcontracting, the CITY shall deal through the CONTRACTOR, and subcontractors will be dealt with as workers and representatives of the CONTRACTOR.

#### **Article 9: Authorized Project Representatives**

Upon the execution of this Agreement, CONTRACTOR and CITY shall designate specific individuals to act as representatives with respect to the services to be performed or furnished by CONTRACTOR and responsibilities of CITY under this Agreement. Such individuals shall have authority to transmit instructions, receive information, and render decisions relative to the WORK on behalf of each respective party.

#### **Article 10: Inspection of Work**

The CONTRACTOR shall furnish the CITY or the CITY'S representative with every reasonable opportunity for determining whether or not the WORK is performed in accordance with the requirements of this Agreement. The CITY may appoint persons to inspect the CONTRACTOR'S operations, equipment, and performance, and the CONTRACTOR shall permit these persons to make such inspections.

### **Article 11: Right to Require Performance**

The failure of either the CITY or CONTRACTOR at any time to require performance by the other party of any provisions hereof shall in no way affect the right of the performing party thereafter to enforce the same. Nor shall waiver by such party of any breach of any provision hereof be taken or held to be a waiver of any succeeding breach of such provision or as a waiver of any provision itself.

### **Article 12: Extraordinary Occurrences**

It is agreed that in no event shall the CITY or CONTRACTOR be liable or responsible to each other or to other persons for damages resulting from deficiencies or delays in the work herein provided for, where such deficiencies or delays result from Acts of God, fire, natural disaster, or any other cause not within reasonable control of the CITY or the CONTRACTOR. The CONTRACTOR recognizes the essential nature of the services to be performed hereunder and will use its best efforts to discharge its functions despite such extraordinary occurrences.

### **Article 13: Insurance**

13.1 *Hold Harmless*: The CITY shall be held harmless against all claims for bodily injury, disease, death, personal injury, and damage to property or loss of use resulting there from, to the extent caused by the CONTRACTOR, unless such claims are a result of the CITY'S sole negligence.

13.2 *Payment on Behalf* of the CITY: The CONTRACTOR agrees to pay on behalf of the CITY, the CITY'S legal defense, for all claims described herein. Such payment on behalf of the CITY shall be in addition to all other legal remedies available to the CITY and shall not be considered to be the CITY's exclusive remedy.

13.3 *Loss Control/Safety*: Precaution shall be exercised at all times by the CONTRACTOR for the protection of all persons, employees, and property. The CONTRACTOR shall comply with all laws, regulations and ordinances related to safety and health, shall make special efforts to detect hazardous conditions, and shall take prompt action where loss control and safety measures should reasonably be expected.

13.4 *Proof of Carriage of Insurance & Naming CITY as Additional Insured*. The CONTRACTOR shall furnish the City with satisfactory proof of carriage of insurance required herein. The CONTRACTOR shall name the City of Jacksonville Beach (CITY) as additional insured on the CONTRACTOR's, and any sub-consultant's or sub-contractor's Public Liability, Property Damage and Comprehensive Automobile Liability Insurance Policies. The additional insured shall be provided the same coverage as the primary insured for losses arising from work performed by the CONTRACTOR or its sub-consultant's or subcontractor's. The proof of carriage or a copy of all policies shall be required prior to commencement of any work under this Contract.

The CITY may order work to be stopped if conditions exist that present immediate danger to persons or property. The CONTRACTOR acknowledges that such stoppage will not shift responsibility for any damages from the CONTRACTOR to the CITY.

13.5 *Insurance Requirements. Basic Coverage's Required:* During the term of this contract, the CONTRACTOR shall procure and maintain the following-described insurance and/or self-insurance except for coverage's specifically waived by the CITY. All policies and insurers must be acceptable to the CITY.

These insurance requirements shall not limit the liability of the CONTRACTOR. The CITY does not represent these types of amounts of insurance to be sufficient or adequate to protect the CONTRACTOR'S interests or liabilities, but are merely minimums.

A. Workers Compensation Coverage is required.

The CONTRACTOR and all subcontractors shall purchase and maintain worker's compensation insurance for all workers compensation obligations imposed by state law with employers' liability limits of at least \$100,000 each accident, \$100,000 each employee and \$500,000 policy limit for disease.

The CONTRACTOR and all subcontractors shall also purchase any other coverages required by law for the benefit of employees.

B. General Liability Coverage is required for all Contractors and Subcontractors.

Commercial General Liability in Occurrence Form.

Coverage A shall include Bodily Injury and Property Damage coverage for liability claims arising from premises, operations, contractual liability, independent Contractors, products and complete operations and including but not limited to coverage for claims resulting from explosion, collapse, or underground (x,c,u) exposures (if any).

Coverage B shall include personal injury and **is required**

Coverage C, medical payments **is not required**.

Amounts: Bodily Injury:	\$1,000,000	each occurrence
	\$1,000,000	aggregate

Property Damage:	\$1,000,000	each occurrence
	\$1,000,000	aggregate

C. Products and Completed Operations are required for Contractor and all Subcontractors.

Amounts:	\$1,000,000	aggregate
----------	-------------	-----------

D. Business Auto Liability Coverage is required for Contractor and all Subcontractors.

Business Auto Liability coverage is to include bodily injury and property damage arising out of ownership, maintenance, or use of any vehicle, including owned, non-owned and hired vehicles, and employee non-ownership use.

Amounts: Bodily Injury:	\$1,000,000	each occurrence
	\$1,000,000	aggregate

Property Damage:	\$1,000,000	each occurrence
	\$1,000,000	aggregate

E. Professional Liability is not required.

F. Pollution Liability required of all Contractors and Subcontractors.

The CITY requires Pollution/Environmental Liability insurance covering cleanup costs including on-site discovery and third party liability, on-site and off-site third party pollution liability coverage, natural resources damage coverage.

Limits of Liability:	\$1,000,000	each pollution event limit
	\$1,000,000	aggregate policy limit

G. Excess or Umbrella Liability Coverage.

Umbrella Liability insurance is preferred, but an Excess Liability equivalent may be allowed. Whichever type of coverage is provided, it shall not be more restrictive than the underlying insurance policy coverage.

H. Claims Made Coverage – No Gap

If any of the required liability insurance is provided on a “claims made” form, such coverage shall extend for a period of not less than 36 months following completion of the contract. In the event of termination of a claims made policy, extended coverage may be provided by assurance that extended discovery coverage of at least 36 months will be purchased from the expiring insurer, or by assurance that the succeeding insurer will provide retroactive coverage with an inception date of at least on or before the effective date of this contract.

I. Certificates of Insurance

Required insurance shall be documented in Certificates of Insurance which provide that the CITY shall be notified at least thirty (30) calendar days in advance of cancellation, non-renewal, or adverse change.

New Certificates of Insurance are to be provided to the CITY at least fifteen (15) calendar days prior to coverage renewals.

If requested by the CITY, the CONTRACTOR shall furnish complete copies of the CONTRACTOR’s insurance policies, forms, and endorsements.

For Commercial General Liability coverage, the CONTRACTOR shall at the option of the CITY, provide an indication of the amount of claims, payments, or reserves chargeable to the aggregate amount of liability coverage. NOTE: Any sub-contractors approved by the CITY shall be required to provide proof of insurance identical in amounts as required by the contract to perform related services. All coverages shall name the CITY as “additional insured”.

Receipt of certificates or other documents of insurance or policies or copies of policies by the CITY, or by any of its representatives, which indicate less coverage than required will not constitute a waiver of the CONTRACTOR's obligation to fulfill the insurance requirements herein.

#### **Article 14: Termination**

The obligation to provide further services under this Agreement may be terminated:

14.1 *For cause.* By either the CITY or CONTRACTOR upon 30 days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party.

14.2 *For convenience.* By the CITY, effective upon the receipt of notice by CONTRACTOR. The CITY'S performance and obligation to pay under this Agreement is contingent upon an annual appropriation by the City Council.

#### **Article 15: Indemnification**

**A: General Indemnity.** To the fullest extent permitted by law, CONTRACTOR shall hold harmless, indemnify and pay on behalf of the CITY, CITY's officers, directors, partners, agents, contractors, and employees from and against any and all costs, losses, and damages, including claims for bodily injury, disease, death, personal injury and damage to property or loss of use resulting therefrom, and for professional liability, (including, but not limited to all fees and charges of contractors, architects, attorneys, and other professionals, and all court, arbitration, or other resolution costs) caused by the negligent acts or omissions of CONTRACTOR or CONTRACTOR's officers, directors, partners, agents, contractors, employees, and CONTRACTOR's consultants, agents, and contractors in the performance and furnishing of CONTRACTOR's services under this Agreement, unless such claims are a result of the CITY's sole negligence. Such payments on behalf of the CITY shall be in addition to all other legal remedies available to the CITY and shall not be considered to be the CITY's exclusive remedy.

**B: Copyright and Intellectual Property Rights.** At CONTRACTOR's expense as described herein, CONTRACTOR shall indemnify, defend and hold CITY and its affiliates and their respective directors, officers, employees, and contractors and agents harmless from and against any claims that any of the professional services allegedly infringe a patent, copyright, trademark, trade secrets or other intellectual property right by defending against such claim and paying all amounts that a court awards or that CONTRACTOR agrees to in settlement of such claim. CONTRACTOR shall also reimburse the CITY for all reasonable expenses incurred by the CITY in respect of each claim. To qualify for such defense and payment, CITY must: (i) give CONTRACTOR prompt written notice of such claim; and (ii) allow CONTRACTOR to control, and fully co-operate with CITY in the defense and all related negotiations. CONTRACTOR's obligation under this Section is conditional upon CITY's agreement that, if the professional services become, or in CONTRACTOR's opinion (as stated in writing to CITY by CONTRACTOR) is likely to become the subject of an infringement claim, then CITY shall permit CONTRACTOR, at CONTRACTOR's expense, either to procure the right for CITY to continue to use such intellectual property contained in the professional services or to replace or modify it so that it becomes non-infringing and retains in all material respects comparable functionality in

the CITY's environment. CONTRACTOR shall have no obligation with respect to any claim to the extent it is based on (i) CITY's use of the intellectual property contained in the professional services in violation of this Agreement; (ii) modifications or user controlled features not authorized by CONTRACTOR; (iii) custom programming for which CONTRACTOR does not develop the specifications or where the code at issue is supplied by CITY. This subsection states CONTRACTOR's entire obligation regarding intellectual property right infringement.

#### **Article 16: Notices**

Any notice required under this Agreement will be in writing, addressed to the appropriate party at its address on the signature page and given personally, or by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon date of receipt.

#### **Article 17: Survival**

All express representations, indemnifications, or limitations of liability included in this Agreement will survive its completion or termination for any reason.

#### **Article 18: Severability**

Any provision or part of the agreement held to be void or unenforceable under any Laws or Regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon the CITY and CONTRACTOR, who agree that the Agreement 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.

#### **Article 19: Waiver**

Non-enforcement of any provision by either party shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.

#### **Article 20: Headings**

The headings used in this Agreement are for general reference only and do not have special significance.

#### **Article 21: Contract Documents**

The Contract Documents which comprise the entire Agreement between the CITY and CONTRACTOR consist of the following, which are made a part thereof:

21.1 Contract Agreement (pages 1 to 13, inclusive).

21.2 **Exhibit "A", Bid Form, Project Plans and Specifications, "JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS"**, in total.

21.3 **Attachment "B"**: Bid Proposal Packet submitted by Contractor in response to Exhibit "A", Bid Form, Project Plans and Specifications, "JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS", including, but not limited to:

- A. Addendum numbers \_\_ through \_\_ inclusive.
- B. Change Orders, Field Orders or written amendments duly delivered after execution of Agreement.
- C. All applicable provisions of State and Federal Law and any modification, thereof, and State of Florida Contract Provisions.

There are no Contract Documents other than those listed above in this Article 21. The Contract Documents may only be altered, amended, or repealed in accordance with the Terms and Conditions.

### **Article 22: Governing Law**

This agreement shall be governed by the laws of the State of Florida. Both parties agree that the courts of the State of Florida shall have jurisdiction of any claim arising in connection with this agreement. In the event of litigation arising out of this agreement, the prevailing party shall be entitled to the award of attorney's fees and costs at both the trial and appellate level.

### **Article 23: Materials and Services**

The professional fees for the CONTRACTOR's services are set forth on the "Fee Schedule" as contained in the CONTRACTOR's submitted proposal and made part hereof.

Expenses for all work and services performed as provided within this Agreement will be estimated in advance and submitted to the CITY for approval prior to performance. Furthermore, any expenses above the initial estimated expenses must be approved in advance by the CITY.

### **Article 25: General Terms**

The CONTRACTOR shall hold harmless and defend the CITY, its officers, agents, and employees from and against all losses and all claims, demands, payments, suits, actions, recoveries, and judgments of every nature and description and all costs, including attorney fees, arising under this Agreement, including claims for property damage and claims for injury to or death of persons arising out of or occurring as a result of any act or omission of the CITY, its officers, agents, or employees in the performance of its obligation to the CITY, other than claims arising from the intentional or negligent acts or omissions of the CITY, its officers, agents, or employees.

The CONTRACTOR without exception shall indemnify and hold harmless the CITY, its officers, agents, and employees from liability of any nature or kind, including costs and expenses for, or on account of, any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of this Agreement, including use by the CITY.

It is agreed that all materials and information furnished to the CONTRACTOR by the CITY or to the CITY by the CONTRACTOR shall remain confidential, except to the extent that such materials and information have become a matter of public record, and such materials and information shall not be divulged except as required under this Agreement or by the Laws of the State of Florida.

**Article 26. Public Records Law Chapter 119 Florida Statutes**

The Parties acknowledge that the CITY is a governmental entity subject to the Florida Public Records Law, as governed by Chapter 119, Florida Statutes. In accordance with Section 119.0701, Florida Statutes, the following provisions are included in this contract:

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT THE CITY OF JACKSONVILLE BEACH, CITY CLERK'S OFFICE:**

**TELEPHONE NUMBER: 904-247-6250 EXT # 11**  
**EMAIL ADDRESS: [CITYCLERK@JAXBCHFL.NET](mailto:CITYCLERK@JAXBCHFL.NET)**  
**MAILING ADDRESS: 11 NORTH THIRD STREET**  
**JACKSONVILLE BEACH, FL 32250**

The CONTRACTOR must keep and maintain public records required by the CITY to perform the service. The CONTRACTOR acknowledges that upon request from the CITY, the CONTRACTOR must provide the CITY with a copy of the requested records or allow the record to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law. The CONTRACTOR must ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if The CONTRACTOR does not transfer the records to the CITY. Upon completion of the contract, The CONTRACTOR shall transfer, at no cost to the CITY, all public records in their possession OR keep and maintain all public records required by the CITY to perform the service contemplated herein. If The CONTRACTOR transfers all public records to the CITY upon completion of the contract, The CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If The CONTRACTOR keeps and maintains the public records upon completion of the contract, The CONTRACTOR shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the CITY, upon request from the CITY, in a format that is compatible with the CITY's information technology systems.

The CONTRACTOR acknowledges that a request to inspect or copy public records relating to a CITY's contract for services must be made directly to the CITY. If the CITY does not possess the requested records, the CITY shall immediately notify The CONTRACTOR of the request, and The CONTRACTOR must provide the records to the CITY or allow the records to be inspected or copied within a reasonable time. If The CONTRACTOR fails to provide the public records to the CITY within a reasonable time it may be subject to penalties under s. 119.10, Florida Statutes. The CONTRACTOR acknowledges its potential liability pursuant to Section 119.0701(4), Florida Statutes, if the CITY has to seek legal action to compel The CONTRACTOR to produce public records relating to a CITY's contract for services.

**Article 27: Dispute Resolution**

- 27.1 CITY and CONTRACTOR agree to negotiate all disputes between them in good faith for a period of 30 days from the date of notice prior to exercising their rights under other provisions of this Agreement, or under law.
- 27.2 This Section shall survive completion or termination of this Agreement.

----- NOTHING ELSE FOLLOWS ON THIS PAGE -----

IN WITNESS WHEREOF, the parties hereto have signed this Agreement in triplicate. One counterpart each has been delivered to CITY and CONTRACTOR. All portions of the Contract Document have been signed or identified by CITY and CONTRACTOR on their behalf.

This agreement will be effective on \_\_\_\_\_.

**CITY: CITY OF JACKSONVILLE BEACH, FLORIDA**

BY: \_\_\_\_\_  
William C. Latham, Mayor

BY: \_\_\_\_\_  
Mike Staffopoulos, City Manager

ATTEST: \_\_\_\_\_  
Laurie Scott, City Clerk

Date Signed: \_\_\_\_\_

**CONTRACTOR: \_\_\_\_\_**

BY: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_

TITLE: \_\_\_\_\_

(CORPORATE SEAL)

ATTEST: \_\_\_\_\_

Date Signed: \_\_\_\_\_

PRINTED NAME: \_\_\_\_\_

AGENT FOR SERVICE OF PROCESS

**CITY:**

Address for Giving Notices:

City of Jacksonville Beach

1460A Shetter Avenue

Jacksonville Beach, Florida 32250

Designated Representative  
(Article 9):

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**CONTRACTOR:**

Address for Giving Notices:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Designated Representative  
(Article 9):

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**SECTION 00610**  
**PERFORMANCE BOND**

STATE OF FLORIDA    )  
  ss  
COUNTY OF            )

KNOW ALL MEN BY THESE PRESENTS that \_\_\_\_\_  
\_\_\_\_\_ as Principal, hereinafter called CONTRACTOR, \_\_\_\_\_  
\_\_\_\_\_ as Surety, hereinafter called Surety, are held and firmly bound unto the CITY of Jacksonville  
Beach as Obligee, hereinafter called CITY, in the amount of \_\_\_\_\_ Dollars  
(\$\_\_\_\_\_) equal to 100% of the total contract price, for the payment whereof CONTRACTOR and Surety bind  
themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement dated \_\_\_\_\_, 20\_\_\_\_, entered into a  
Contract with CITY for:

**CITY OF JACKSONVILLE BEACH**  
Bid Number: 1920-11  
Jacksonville Beach Water and Sewer Improvements

in accordance with Drawings and Specifications prepared by Four Waters Engineering, Inc., which Contract is by  
reference made a part hereof and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH, that, if the Principal shall in  
all respects promptly and faithfully perform and comply with the terms and conditions of said Contract and his obligations  
thereunder and shall indemnify the CITY and the Consulting Engineer and save either or all of them harmless against and  
from all costs, expenses and damages arising from the performance of said Contract or the repair of any work thereunder,  
then this obligation shall be void; otherwise, this Bond shall remain in full force and effect, in accordance with the  
following terms and conditions:

- A.     The Principal and Surety jointly and severally agree to pay the CITY any difference between the sum to which  
the said Principal would be entitled on the completion of the Contract, and that sum which the CITY may be  
obliged to pay for the completion of said work by Contract or otherwise, and any damages, direct or indirect or  
consequential, which the said CITY may sustain on account of such work, or on account of the failure of said  
CONTRACTOR to properly and in all things, keep and execute all of the provisions of said Contract.
  
- B.     And this Bond shall remain in full force and effect for a period of one (1) year from the date of acceptance of the  
project by the CITY and shall provide that the CONTRACTOR guarantees to repair or replace for said period of  
one (1) year all work performed and materials and equipment furnished that were not performed or furnished  
according to the terms of the Contract, and shall make good, defects thereof which have become apparent before  
the expiration of said period of one (1) year. If any part of the project, in the judgment of the CITY, for the  
reasons above stated needs to be replaced, repaired or made good during that time, the CITY shall so notify the  
CONTRACTOR in writing. If the CONTRACTOR refuses or neglects to do such work within five (5) days  
from the date of service of such Notice, the CITY shall have the work done by others and the cost thereof shall  
be paid by the CONTRACTOR or his Surety.
  
- C.     And the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration  
or addition to the terms of the Contract or to the work to be performed thereunder or the specifications  
accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive Notice of  
any change, extension of time, alteration or addition to the terms of the Contract or to the work or to the  
Specifications.

D. All Bonds shall be in the form prescribed by the Contract Documents or other form approved by Owner. All else notwithstanding, the terms of all Payment Bonds shall be substantially in the form prescribed by Chapter 255, Florida Statutes. All Bonds shall be executed by Contractor and a Surety licensed to transact such business in the State of Florida and named on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular Number 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. The Surety shall have an A.M. Best Financial Performance rating of no less than "A-." Contractor will cause the Bonds to be recorded with the Clerk of the Circuit Court in the county in which the Work is to be performed. Failure of the Contractor to deliver required Bonds in the form prescribed may constitute an event justifying termination for cause. The expense for all Bonds shall be Contractor's responsibility.

IN WITNESS WHEREOF, the above bounded parties executed this instrument under their several seals, this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, A.D., the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS: (If Sole Ownership or Partnership, two (2) Witnesses required).  
 (If Corporation, Secretary only will attest and affix seal).

PRINCIPAL:

\_\_\_\_\_  
 \_\_\_\_\_ (Affix Seal)  
 Signature of Authorized Officer

WITNESSES:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ Title  
 \_\_\_\_\_ Business Address  
 \_\_\_\_\_ City State

SURETY:

\_\_\_\_\_  
 Corporate Surety  
 \_\_\_\_\_ (Affix Seal)  
 Attorney-in-Fact  
 \_\_\_\_\_ Business Address  
 \_\_\_\_\_ City State  
 \_\_\_\_\_ Name of Local Insurance Agency

WITNESS:

\_\_\_\_\_

CERTIFICATES AS TO CORPORATE PRINCIPAL

I, \_\_\_\_\_, certify that I am the Secretary of the Corporation named as Principal in the within bond; that \_\_\_\_\_ who signed the said bond on behalf of the Principal, was then \_\_\_\_\_ of said Corporation; that I know his signature, and his signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

\_\_\_\_\_  
Secretary (Corporate Seal)

STATE OF FLORIDA    )  
  ss  
COUNTY OF            )

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared \_\_\_\_\_ to me well known, who being by me first duly sworn upon oath, says that he is the Attorney-in-Fact, for the \_\_\_\_\_ and that he has been authorized by \_\_\_\_\_ to execute the foregoing bond on behalf of the CONTRACTOR named therein in favor of the \_\_\_\_\_.

Subscribed and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, A.D.

(Attach Power of Attorney)

\_\_\_\_\_  
Notary Public  
State of Florida-at-Large  
  
My Commission Expires: \_\_\_\_\_



3. After the expiration of one (1) year from the performance of the labor or completion of delivery of the materials and supplies; it being understood, however, that if any limitation embodied in this Bond is prohibited by any law controlling the construction hereof such limitations shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
  4. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
- D. The Principal and the Surety jointly and severally, shall repay the CITY any sum which the CITY may be compelled to pay because of any lien for labor or materials furnished for any work included in or provided by said Contract.
- E. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration of or addition to the terms of the Contract or to the work to be performed thereunder or the Specifications applicable thereto shall in any way affect its obligations on this Bond, and the Surety hereby waives notice of any such change, extension of time, alterations of or addition to the terms of the Contract, or to the work or to the Specifications.
- F. All Bonds shall be in the form prescribed by the Contract Documents or other form approved by Owner. All else notwithstanding, the terms of all Payment Bonds shall be substantially in the form prescribed by Chapter 255, Florida Statutes. All Bonds shall be executed by Contractor and a Surety licensed to transact such business in the State of Florida and named on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular Number 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. The Surety shall have an A.M. Best Financial Performance rating of no less than "A-." Contractor will cause the Bonds to be recorded with the Clerk of the Circuit Court in the county in which the Work is to be performed. Failure of the Contractor to deliver required Bonds in the form prescribed may constitute an event justifying termination for cause. The expense for all Bonds shall be Contractor's responsibility.

IN WITNESS WHEREOF, the above bounded parties executed this instrument under their several seals, this day of \_\_\_\_\_20\_\_\_\_, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

WITNESS: (If Sole Ownership or Partnership, two (2) Witnesses required).  
(If Corporation, Secretary only will attest and affix seal).

PRINCIPAL:

\_\_\_\_\_

Signature of Authorized Officer (Affix Seal)

WITNESSES:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Title

\_\_\_\_\_ Business Address

\_\_\_\_\_ City State

SURETY:

\_\_\_\_\_ Corporate Surety

WITNESS:

\_\_\_\_\_

\_\_\_\_\_ (Affix Seal)  
Attorney-in-Fact

\_\_\_\_\_ Business Address

\_\_\_\_\_ City State

\_\_\_\_\_ Name of Local Insurance Agency

CERTIFICATES AS TO CORPORATE PRINCIPAL

I, \_\_\_\_\_, certify that I am the Secretary of the Corporation named as Principal in the within bond; that \_\_\_\_\_ who signed the said bond on behalf of the Principal, was then \_\_\_\_\_ of said Corporation; that I know his signature, and his signature hereto is genuine; and that said bond was duly signed, sealed, and attested for and in behalf of said Corporation by authority of its governing body.

\_\_\_\_\_  
Secretary (Corporate Seal)

STATE OF FLORIDA    )  
                                  ss  
COUNTY OF            )

Before me, a Notary Public, duly commissioned, qualified and acting, personally appeared \_\_\_\_\_ to me well known, who being by me first duly sworn upon oath, says that he is the Attorney-in-Fact, for the \_\_\_\_\_ and that he has been authorized by \_\_\_\_\_ to execute the foregoing bond on behalf of the CONTRACTOR named therein in favor of the \_\_\_\_\_.

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_, A.D.

(Attach Power of Attorney)

\_\_\_\_\_  
Notary Public  
State of Florida-at-Large

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

**END OF SECTION**

**SECTION 00630  
INSURANCE REQUIREMENTS**

**INSURANCE REQUIREMENTS**

***GENERAL PROVISIONS***

Hold Harmless: The City shall be held harmless against all claims for bodily injury, disease, death, personal injury, and damage to property or loss of use resulting there from, to the extent caused by the Contractor, unless such claims are a result of the City's sole negligence.

Payment on Behalf of the City: The Contractor agrees to pay on behalf of the City, the City's legal defense, for all claims described herein.

Such payment on behalf of the City shall be in addition to all other legal remedies available to the City and shall not be considered to be the City's exclusive remedy.

Loss Control/Safety: Precaution shall be exercised at all times by the Contractor for the protection of all persons, employees, and property. The Contractor shall comply with all laws, regulations and ordinances related to safety and health, shall make special efforts to detect hazardous conditions, and shall take prompt action where loss control and safety measures should reasonably be expected.

***PROOF OF CARRIAGE OF INSURANCE & NAMING CITY AS ADDITIONAL INSURED***

The Contractor shall furnish the City with satisfactory proof of carriage of insurance required herein. The Contractor shall name the City of Jacksonville Beach (City) as additional insured on the Contractor's, and any sub-consultant's or sub-contractor's Public Liability, Property Damage and Comprehensive Automobile Liability Insurance Policies. The additional insured shall be provided the same coverage as the primary insured for losses arising from work performed by the Contractor or its sub-consultant's or sub-contractor's. The proof of carriage or a copy of all policies shall be required prior to commencement of any work under this Contract.

The City may order work to be stopped if conditions exist that present immediate danger to persons or property. The Contractor acknowledges that such stoppage will not shift responsibility for any damages from the Contractor to the Organization.

***INSURANCE REQUIREMENTS:***

**Insurance Requirements:**

Basic Coverages Required: During the term of this contract, the Contractor shall procure and maintain the following-described insurance and/or self-insurance except for coverages specifically waived by the City. All policies and insurers must be acceptable to the City.

These insurance requirements shall not limit the liability of the Contractor. The City does not represent these types of amounts of insurance to be sufficient or adequate to protect the Contractor's interests or liabilities but are merely minimums.

Worker's Compensation Coverage is **required**.

The Contractor shall purchase and maintain worker's compensation insurance for all worker's compensation obligations imposed by state law and employer's liability limits of at least \$100,000.00 each accident, \$100,000.00 each employee and \$500,000.00 policy limit for disease.

The Contractor shall also purchase any other coverages required by law for the benefit of employees.

General Liability Coverage is **required.**

Commercial General Liability in Occurrence Form.

Coverage A shall include premises, operations, independent Contractors, and property damage resulting from explosion, collapse, or underground (x,c,u) exposures.

Coverage B shall include personal injury and is **required.**

Coverage C, medical payments is **not required.**

Amounts:	Bodily Injury:	\$1,000,000	each occurrence
		\$1,000,000	aggregate
	Property Damage:	\$1,000,000	each occurrence
		\$1,000,000	aggregate

Products and Completed Operations are **required.**

Amounts: \$1,000,000 aggregate

Business Auto Liability Coverage is **required.**

Business Auto Liability Coverage is to include bodily injury and property damage arising out of ownership, maintenance or use of any auto, including owned, non-owned and hired automobiles and employee non- ownership use.

Amounts: Same as General Liability

Professional Liability **NOT REQUIRED.**

Professional liability coverage shall include liability for the providing or failure to provide professional services

**Excess or Umbrella Liability Coverage.**

Umbrella Liability insurance is preferred, but an Excess Liability equivalent may be allowed. Whichever type of coverage is provided, it shall not be more restrictive than the underlying insurance policy coverages.

Claims Made Coverage – No Gap

If any of the required liability insurance is provided on a “claims made” form, such coverage shall extend for a period of not less than 36 months following completion of the contract. In the event of termination of a claims made policy, extended coverage may be provided by assurance that extended discovery coverage of at least 36 months will be purchased from the expiring insurer, or by assurance that the succeeding insurer will provide retroactive coverage with an inception date of at least on or before the effective date of this contract.

**Certificates of Insurance.**

Required insurance shall be documented in Certificates of Insurance which provide that the City shall be notified at least 30 days in advance of cancellation, nonrenewal or adverse change.

New Certificates of Insurance are to be provided to the City at least 15 days prior to coverage renewals.

If requested by the City, the Contractor shall furnish complete copies of the Contractor's insurance policies, forms and endorsements.

For Commercial General Liability coverage, the Contractor shall at the option of the City, provide an indication of the amount of claims, payments, or reserves chargeable to the aggregate amount of liability coverage. NOTE: Any sub-contractors approved by the City shall be required to provide proof of insurance identical in amounts as required by the contract to perform related services. All coverages shall name the City as "additional insured".

Receipt of certificates or other documents of insurance or policies or copies of policies by the City, or by any of its representatives, which indicate less coverage than required will not constitute a waiver of the successful proposer(s)' obligation to fulfill the insurance requirements herein.

**END OF SECTION**

**SECTION 00700  
GENERAL CONDITIONS**

**ARTICLE 1 - DEFINITIONS**

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

**Addenda:** Written or graphic instruments issued prior to the opening of Bids, which clarify, correct or change the bidding documents or the Contract Documents.

**Agreement:** The written agreement between CITY and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

**Application for Payment:** The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

**Bid:** The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

**Bidding Documents:** The Advertisement or Invitation to Bid, Instructions to Bidders, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

**Bonds:** Bid, performance and payment bonds and other instruments of security.

**Change Order:** A document which is signed by CONTRACTOR and CITY and directs or authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

**Contract Documents:** The Bidding Documents, Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements issued pursuant to paragraphs 3.4 and 3.5 on or after the Effective Date of the Agreement.

**Contract Price:** The moneys payable by CITY to CONTRACTOR under the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1, in the case of Unit Price Work).

**Contract Time:** The number of days (computed as provided in paragraph 16.2) or the date stated in the Agreement for the completion of the Work.

**CONTRACTOR:** The person, firm or corporation with whom CITY has entered into the Agreement.

**Defective:** An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by CITY at Substantial Completion in accordance with paragraph 14.8 or 14.10).

**Drawings:** The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents.

**Effective Date of the Agreement:** The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

**ENGINEER:** The person, firm or corporation named as such in the Agreement, or as otherwise designated by the CITY.

**Field Order:** A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or Contract Time.

**General Requirements:** Sections of Division 1 of the Specifications.

**Laws and Regulations; Laws or Regulations:** Laws, rules, regulations, ordinances, codes and/or orders.

**Notice of Award:** The written notice to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, CITY will sign and deliver the Agreement.

**Notice to Proceed:** A written notice given to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.

**CITY:** The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

**Partial Utilization:** Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

**Project:** The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

**Project Manual:** The title of the bound documentary information prepared for a construction project and includes bidding requirements, conditions of contract and product specifications.

**Resident Project Representative:** The authorized representative of ENGINEER or CITY who is assigned to the site or any part thereof.

**Shop Drawings:** All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams, and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

**Specifications:** Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

**Subcontractor:** An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

**Substantial Completion:** The point at which, in the opinion of ENGINEER as evidenced by ENGINEER'S

definitive certificate of Substantial Completion, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, that it can be utilized for the purposes for which it is intended; or if there be no such certificate issued, when final payment is due in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

**Supplementary Conditions:** The part of the Contract Documents which amends or supplements these General Conditions.

**Supplier:** A manufacturer, fabricator, supplier, distributor, material man or vendor.

**Underground Facilities:** All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

**Unit Price Work:** Work to be paid for on the basis of unit prices.

**Work:** The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the act of and results of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

**Work Directive Change:** A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or to emergencies under paragraph 6.22. A Work Directive Change may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 10.2

**Written Amendment:** A written amendment of the Contract Documents, signed by CITY and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or nontechnical rather than strictly Work-related aspects of the Contract Documents.

## **ARTICLE 2 - PRELIMINARY MATTERS**

### **Delivery of Bonds:**

2.1. When CONTRACTOR delivers the executed Agreements to CITY, CONTRACTOR shall also deliver to CITY such Bonds as CONTRACTOR may be required to furnish in accordance with paragraph 5.1.

### **Copies of Documents:**

2.2 CITY shall furnish to CONTRACTOR up to five copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

### **Commencement of Contract Time; Notice to Proceed:**

2.3 The Contract Time shall commence to run on the date indicated in the Notice to Proceed. In no event will the starting date included in the Notice to Proceed be later than the seventy-fifth day after the Effective Date of the

Agreement.

**Starting the Project:**

- 2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no work shall be done at the site prior to the date on which the Contract Time commences to run.

**Before Starting Construction:**

- 2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to CITY or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents, unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.
- 2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for review:
- 2.6.1. an estimated progress schedule indicating the starting and completion dates of the various stages of the Work;
  - 2.6.2 a preliminary schedule of Shop Drawing submissions; and
  - 2.6.3 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work, which will be confirmed in writing by CONTRACTOR at the time of submission.
- 2.7 Before any Work at the site is started, CONTRACTOR shall deliver to CITY, with a copy to ENGINEER, certificates showing the existence of insurance (and other evidence of insurance required by CITY and/or the Contract Documents) which CONTRACTOR is required to purchase and maintain in accordance with paragraphs 5.3 and 5.4.

**Preconstruction Conference:**

- 2.8 Before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

**Finalizing Schedules:**

- 2.9 At least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility therefor. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submission. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

## **ARTICLE 3 - CONTRACT DOCUMENTS, INTENT, AMENDING, REUSE**

### **Intent:**

- 3.1 The Contract Documents comprise the entire agreement between CITY and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.
- 3.2 It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents, as being required to produce the intended result will be supplied whether or not specifically called for. When words, which have a well-known technical or trade meaning are used to describe Work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of CITY, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any of ENGINEER's consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provision of paragraph 9.15 or 9.16. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 9.4. The Agreement shall take precedence over all Contract Documents. The various Contract Documents shall be given precedence, in case of conflicts, error or discrepancy as follows: Agreement Modifications, Agreement, Technical Specifications, Supplementary Conditions, General Conditions, and Drawings. In the event of inconsistencies in the same order of precedence, the more expensive and/or stringent will be required. Full size details shall take precedence over scale drawings and large scale drawings shall take precedence over small scale drawings. Dimensions given in figures shall take precedence over scaled dimensions. Actual job dimensions shall take precedence over scale and figure dimensions on the drawings.
- 3.3 If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to ENGINEER in writing at once and, before proceeding with the Work affected thereby, shall obtain a written interpretation or clarification from ENGINEER; however, CONTRACTOR shall not be liable to CITY or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

### **Amending and Supplementing Contract Documents:**

- 3.4 The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:
    - 3.4.1 a Written Amendment,
    - 3.4.2 a Change Order (pursuant to paragraph 10.4), or
    - 3.4.3 a Work Directive Change (pursuant to paragraph 10.1).
- As indicated in paragraphs 11.2 and 12.1, Contract Price and Contract Time may only be changed by a Change Order or a Written Amendment.
- 3.5. In addition, the requirements of the Contract Documents may be supplemented and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

- 3.5.1 a Field Order (pursuant to paragraph 9.5),
- 3.5.2 ENGINEER's approval of a Shop Drawing or sample (pursuant to paragraphs 6.26 and 6.27), or
- 3.5.3 ENGINEER's written interpretation or clarification (pursuant to paragraph 9.4).

**Reuse of Documents:**

- 3.6 Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with CITY shall have or acquire any title to or CITYship rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project or any other project without written consent of CITY and ENGINEER and specific written verification or adaptation by ENGINEER.

**ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS**

**Availability of Lands:**

- 4.1 CITY shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by CITY, unless otherwise provided in the Contract Documents. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

**Physical Conditions:**

4.2.1 Explorations and Reports:

Reference is made to the Supplementary Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon nontechnical data, interpretations or opinions contained therein or for the completeness thereof for CONTRACTOR's purposes including means, methods, techniques, sequences and procedures of construction. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.

4.2.2 Existing Structures:

Reference is made to the Supplementary Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities referred to in paragraph 4.3) which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR's purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.

4.2.3 Report of Differing Conditions:

If CONTRACTOR believes that:

- 4.2.3.1 any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1

and 4.2.2 is inaccurate, or

- 4.2.3.2 any physical condition uncovered or revealed at the site differs materially from that indicated, reflected or referred to in the Contract Documents,

CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.22), notify CITY and ENGINEER in writing about the inaccuracy or difference.

4.2.4 ENGINEER's Review:

ENGINEER will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise CITY in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

4.2.5 Possible Document Change:

If ENGINEER concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change in the Contract Documents is required, a Work Directive Change or a Change Order will be issued as provided in Article 10 to reflect and document the consequences or the inaccuracy of difference.

4.2.6 Possible Price and Time Adjustments:

In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference. If CITY and CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made therefor as provided in Articles 11 and 12.

**Physical Conditions -- Underground Facilities:**

4.3.1 Shown or Indicated:

The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to CITY or ENGINEER by the CITYs of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

- 4.3.1.1 CITY and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,
- 4.3.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the Contract Documents, for coordination of the Work with the CITYs of such Underground Facilities during construction, for the safety and protection thereof as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2 Not Shown or Indicated:

If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 6.22), identify the CITY of such

Underground Facility and give written notice thereof to that CITY and to CITY and ENGINEER. ENGINEER will promptly review the Underground Facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraphs 6.20.

**Reference Points:**

- 4.4 CITY will provide engineering surveys to establish reference points for construction as indicated on the Drawings which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements, Division I), shall protect and preserve the established reference points and shall make no changes or relocations without prior written approval of CITY. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grade or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

**ARTICLE 5 - BONDS AND INSURANCE**

**Performance and Other Bonds:**

- 5.1 CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Law or Regulation or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by the Contract Documents.
- 5.1.1 The following requirements shall be met by all surety companies furnishing bid, performance, payment or other type of bonds:
- 5.1.1.1 The Surety shall be rated as "A" or better as to General Policyholders Rating and Class X or better as to Financial Category by Best's Key Rating Guide, published by Alfred M. Best Company, Inc., of 75 Fulton Street, New York, New York, 10038.
- 5.1.1.2 The Surety shall be listed on the U. S. Department of Treasury, Fiscal Service, Bureau of Government Financial Operations, Circular 570 (latest Revision) entitled, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies", and be authorized to do business in the state where the Project is located.
- 5.1.1.3 All Surety Companies are subject to approval and may be rejected by the CITY without cause, in the same manner that bids may be rejected.
- 5.1.2 Limitations: Bonding Limits or Bonding Capacity refer to the limit or amount of Bond acceptable on any one risk.
- 5.1.2.1 The bonding limit of the Surety shall not exceed ten percent (10%) of the policyholder surplus (capital and surplus) as listed by the aforementioned Best's Key Rating Guide, on any one risk (penalty or amount of any one bond).
- 5.1.3 Requirements:
- 5.1.3.1 Policy Holders Surplus is required to be five (5) times the amount of any one bond.

5.1.3.2. The Agent countersigning the bond shall be resident in the County where the Project is located and/or other counties that are acceptable to the CITY.

5.2 If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within five days thereafter substitute another Bond and Surety, both of which must be acceptable to CITY.

**Contractor's Liability Insurance:**

5.3 CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed or furnished by CONTRACTOR, by any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

5.3.1 Claims under workers' or workmen's compensation, disability benefits and other similar employee benefit acts;

5.3.2 Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

5.3.3 Claims for damages because of bodily injury, sickness or disease, or death of any CONTRACTOR's employees;

5.3.4 Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (b) by any other person for any other reason;

5.3.5 Claims for damages other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;

5.3.6 Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and

5.3.7 Claims for damages because of bodily injury or death of any person or property damage arising out of the CITYship, maintenance or use of any motor vehicle.

The insurance required by this paragraph 5.3 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the Supplementary Conditions, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty days' prior written notice has been given to CITY and ENGINEER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.12. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and furnish CITY with evidence of continuation of such insurance at final payment and one year thereafter.

**Contractual Liability Insurance:**

- 5.4 The comprehensive general liability insurance required by paragraph 5.3 will include contractual liability insurance applicable to CONTRACTOR's obligations under paragraphs 6.30 and 6.31.

**Property Insurance:**

- 5.5 Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall include the interests of CITY, CONTRACTOR, Subcontractors, ENGINEER and ENGINEER's consultants in the Work, all of whom shall be listed as insured's or additional insured parties, shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided in the Supplementary Conditions, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals). If not covered under the "all risk" insurance or otherwise provided in the Supplementary Conditions, CONTRACTOR shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment.
- 5.6 CONTRACTOR shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of CITY, CONTRACTOR, Subcontractors, ENGINEER AND ENGINEER's consultants in the Work, all of whom shall be listed as insured or additional insured parties.
- 5.7 All the policies of insurance (or the certificates or other evidence thereof) required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.5 and 5.6 will contain a provision or endorsement that the coverage afforded will not be cancelled or materially changed or renewal refused until at least thirty days' prior written notice has been given to CITY by certified mail and will contain waiver provisions in accordance with paragraph 5.10.2.
- 5.8 CITY shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR, Subcontractors or others in the Work to the extent of any deductible amounts that are provided in the Supplementary Conditions. The risk of loss within the deductible amount will be borne by CONTRACTOR, Subcontractor or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.
- 5.9 If CITY requests in writing that other special insurance be included in the property insurance policy, CONTRACTOR shall, if possible, include such insurance and cost thereof will be charged to CITY by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the site, CONTRACTOR shall in writing advise CITY whether or not such other insurance has been procured by CONTRACTOR.

**Waiver of Rights:**

- 5.10.1. CITY and CONTRACTOR waive all rights against each other for all losses and damages caused by any of the perils covered by the policies of insurance provided in response to paragraphs 5.5 and 5.6 and any other property insurance applicable to the Work, and also waive all such rights against the Subcontractors, ENGINEER, ENGINEER's consultants and all other parties named as insured's in such policies for losses and damages so caused. As required by paragraph 6.11, each subcontract between CONTRACTOR and a Subcontractor will contain similar waiver provisions by the Subcontractor in favor of CITY, CONTRACTOR, ENGINEER, ENGINEER's consultants and all other parties named as insureds.
- 5.10.2 CITY and CONTRACTOR intend that any policies provided in response to paragraphs 5.5 and 5.6 shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils

covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any of the parties named as insured's or additional insured's, and if the insurers require separate waiver forms to be signed by ENGINEER or ENGINEER's consultant, CITY will obtain the same, and if such waiver forms are required of any Subcontractor, CONTRACTOR will obtain the same.

**Acceptance of Insurance:**

5.11 If CITY has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR on the basis of its not complying with the Contract Documents, CITY shall notify CONTRACTOR in writing thereof within ten days of the date of delivery of such certificates to CITY in accordance with paragraph 2.7. CONTRACTOR shall provide to the CITY such additional information in respect of insurance provided as the CITY may reasonably request. Failure by CITY to give any such notice of objection within the time provided shall constitute acceptance of such insurance purchased by the CONTRACTOR as complying with the Contract Documents.

**Partial Utilization - Property Insurance:**

5.12. If CITY finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected the changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be cancelled or lapse on account of any such partial use or occupancy.

**ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES**

**Supervision and Superintendence:**

6.1. CONTRACTOR shall supervise and direct the WORK competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, methods, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

6.2 CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to CITY and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

**Labor, Materials and Equipment:**

6.3 CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without CITY's written consent given after prior written notice to ENGINEER.

6.4 Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full

responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

- 6.5 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER's consultants, agents or employees, any duty of authority to undertake responsibility contrary to the provisions of paragraph 9.15 or 9.16.

**Adjusting Progress Schedule:**

- 6.6 CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provision of the General Requirements applicable thereto.

**Substitutes or "Or-Equal" Item:**

- 6.7.1. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by ENGINEER if sufficient information is submitted by CONTRACTOR to allow ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by ENGINEER will include the following as supplemented in the General Requirements. Requests for review of substitute items of material and equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with CITY for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR's expense additional data about the proposed substitute.
- 6.7.2 If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to ENGINEER, if CONTRACTOR submits sufficient information to allow ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in paragraph 6.7.1 as applied by ENGINEER and as may be supplemented in the General Requirements.
- 6.7.3 ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. ENGINEER will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop

Drawing. CITY may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute. ENGINEER will record time required by ENGINEER and ENGINEER's consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse CITY for the charges of ENGINEER and ENGINEER's consultants for evaluating each proposed substitute.

#### **Concerning Subcontractors, Suppliers and Others:**

- 6.8.1 CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to CITY and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom CITY or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.
- 6.8.2 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to CITY in advance of the specified date prior to the Effective Date of the Agreement for acceptance by CITY and ENGINEER and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, CITY's or ENGINEER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be increased by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by CITY or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of CITY or ENGINEER to reject defective Work.
- 6.9 CONTRACTOR shall be fully responsible to CITY for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between CITY or ENGINEER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of CITY or ENGINEER to pay or to see to the payment of any money's due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.
- 6.10 The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- 6.11 All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of CITY and ENGINEER and contains waiver provisions as required by paragraph 5.10. CONTRACTOR shall pay each Subcontractor a just share of any insurance moneys received by CONTRACTOR on account of losses under policies issued pursuant to paragraphs 5.5 and 5.6.

#### **Patent Fees and Royalties:**

- 6.12 CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process,

product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of CITY or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by CITY in the Contract Documents. CONTRACTOR shall indemnify and hold harmless CITY and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees and court costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights.

**Permits:**

6.13 Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. CITY shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility CITYs for connections to the Work, and CITY shall pay all charges of such utility CITYs for capital costs related thereto such as plant investment fees.

**Laws and Regulations:**

6.14.1 CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither CITY nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.14.2 If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.4. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

**Taxes:**

6.15 CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project, which are applicable during the performance of the Work.

**Use of Premises:**

6.16 CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area or to the CITY or occupant thereof on of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against CITY or ENGINEER by any such CITY or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold CITY and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and

court costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against CITY or ENGINEER to the extent based on a claim arising out of CONTRACTOR's performance of the Work.

- 6.17 During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish, and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by CITY. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.
- 6.18 CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

**Record Documents:**

- 6.19 CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to ENGINEER for CITY. Final acceptance of the project will be withheld until delivery of the documents is made to the ENGINEER.

**Safety and Protection:**

- 6.20 CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
- 6.20.1 all employees on the Work and other persons and organizations who may be affected thereby;
  - 6.20.2 all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and
  - 6.20.3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify CITYs of adjacent property and of Underground Facilities and utility CITYs when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of CITY or ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR). CONTRACTOR's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to CITY and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as

otherwise expressly provided in connection with Substantial Completion).

- 6.21 CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR's superintendent unless otherwise designated in writing by CONTRACTOR to CITY.

**Emergencies:**

- 6.22 In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or CITY, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variations.

**Shop Drawings and Samples:**

- 6.23 After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, CONTRACTOR shall submit to ENGINEER for review and approval in accordance with the accepted schedule of Shop Drawings submissions (see paragraph 2.9), or for other appropriate action if so indicated in the Supplementary Conditions, eight copies (unless otherwise specified in the General Requirements) of all Shop Drawings, which will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission. Shop Drawings submitted without this stamp or specific written indication will be returned without action. All submissions will be identified as ENGINEER may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable ENGINEER to review the information as required.
- 6.24 CONTRACTOR shall also submit to ENGINEER for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.
- 6.25.1 Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.
- 6.25.2 At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.
- 6.26 ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, but ENGINEER's review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review and

approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals. Shop Drawings and submittal data will be reviewed two times, thereafter all further review time will be charged to the CONTRACTOR.

6.27 ENGINEER's review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission as required by paragraph 6.25.2 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.25.1.

6.28 Where a Shop Drawing or sample is required by Specifications, any related Work performed prior to ENGINEER's review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

**Continuing the Work:**

6.29 CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with CITY. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as CONTRACTOR and CITY may otherwise agree in writing.

**Indemnification:**

6.30 To the fullest extent permitted by Laws and Regulations CONTRACTOR shall indemnify and hold harmless CITY and ENGINEER and their consultants, agents and employees from and against all claims, damages, losses and expenses, direct, indirect or consequential (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party.

6.31 In any and all claims against CITY or ENGINEER or any of their consultants, agents or employees by any employee of CONTRACTOR, any Subcontractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.30 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.32 The obligations of CONTRACTOR under paragraph 6.30 shall not extend to the liability of ENGINEER, ENGINEER's consultants, agents or employees arising out of the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications.

**ARTICLE 7 - OTHER WORK**

**Related Work at Site:**

7.1 CITY may perform other work related to the Project at the site with CITY's own forces, have other work

performed by utility CITYs or let other direct contracts therefor which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work.

- 7.2 CONTRACTOR shall afford each utility CITY and other contractor who is a party to such a direct contract (or CITY, if CITY is performing the additional work with CITY's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility CITYs and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between CITY and such utility CITYs and other contractors.
- 7.3 If any part of CONTRACTOR's Work depends for proper execution or results upon the work of any such other contractor or utility CITY (or CITY), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR's failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in the other work.

**Coordination:**

- 7.4 If CITY contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, neither CITY nor ENGINEER shall have any authority or responsibility in respect of such coordination.

**ARTICLE 8 - CITY'S RESPONSIBILITIES**

- 8.1 CITY shall issue all communications to CONTRACTOR through ENGINEER.
- 8.2 CITY shall furnish the data required of CITY under the Contract Documents promptly and shall make payments to CONTRACTOR promptly after they are due as provided in paragraphs 14.4 and 14.13.
- 8.3 CITY's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to CITY's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.
- 8.4 CITY is obligated to execute Change Orders as indicated in paragraph 10.4.
- 8.5 CITY's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.
- 8.6 In connection with CITY's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with CITY's right to terminate services of CONTRACTOR under certain circumstances.

**ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION**

**CITY's Representative:**

9.1 ENGINEER will be CITY's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as CITY's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of CITY and ENGINEER.

**Visits to Site:**

9.2 ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in substantial accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for CITY a greater degree of confidence that the Work will conform to the Contract Documents. On the basis of such visits and on-site observations as an experienced and qualified design professional, ENGINEER will keep CITY informed of the progress of the Work and will endeavor to guard CITY against defects and deficiencies in the Work.

**Project Representation:**

9.3 If CITY and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in observing the performance of the Work. The duties, responsibilities and limitations of authority of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions. If CITY designates another agent to represent CITY at the site who is not ENGINEER's agent or employee, the duties, responsibilities and limitations of authority of such other person will be as provided in the Supplementary Conditions.

**Clarifications and Interpretations:**

9.4 ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, CONTRACTOR may make a claim therefor as provided in Article 11 or Article 12.

**Authorized Variations in Work:**

9.5 ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents, which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and will be binding on CITY, and also on CONTRACTOR who shall perform the Work involved promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

**Rejecting Defective Work:**

9.6 ENGINEER will have authority to disapprove or reject Work, which ENGINEER believes to be defective (see 13.14) and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed. ENGINEER shall notify the CONTRACTOR in writing of any disapproval and/or rejection.

**Shop Drawings, Change Orders and Payments:**

9.7 In connection with ENGINEER's responsibility for Shop Drawings and samples, see paragraphs 6.23 through

6.28 inclusive.

9.8 In connection with ENGINEER's responsibilities as to Change Orders, see Articles 10, 11 and 12.

9.9 In connection with ENGINEER's responsibilities in respect of Applications for Payment, etc., see Article 14.

**Determination for Unit Prices:**

9.10 ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decisions thereon will be final and binding upon CITY and CONTRACTOR, unless, within ten days after the date of any such decision, either CITY or CONTRACTOR delivers to the other party to the Agreement and to ENGINEER written notice of intention to appeal from such a decision.

**Decisions on Disputes:**

9.11 ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim.

9.12 When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to CITY or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to paragraphs 9.10 and 9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.16) will be a condition precedent to any exercise by CITY or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter.

**Limitations on ENGINEER's Responsibilities:**

9.13 Neither Engineer's authority to act under this Article 9 or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

9.14 Whenever in the Contract Documents the term "as ordered", "as directed", "as required", "as allowed", "as approved", or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review, or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15 and 9.16.

9.15 ENGINEER will not be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.16 ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

#### **ARTICLE 10 - CHANGES IN THE WORK**

10.1 Without invalidating the Agreement and without notice to any surety, CITY may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Written Amendment, a Change Order, or a Work Directive Change. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2 If CITY and CONTRACTOR are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Work Directive Change, a claim may be made therefor as provided in Article 11 or Article 12.

10.3 CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.4 and 3.5, except in the case of an emergency as provided in paragraph 6.22.

10.4 CITY and CONTRACTOR shall execute appropriate Change Orders (or Written Amendments) covering:

10.4.1 changes in the Work which are ordered by CITY pursuant to paragraph 10.1, are required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or are agreed to by the parties:

10.4.2 changes in the Contract Price or Contract Time which are agreed to by the parties; and

10.4.3 changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11; provided that, in lieu of executing any such Change Order (or Written Amendment), an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5 If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

#### **ARTICLE 11 - CHANGES OF THE CONTRACT PRICE**

11.1 The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

11.2 The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and

consequential) to which the claimant is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if CITY and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

- 11.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:
- 11.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit price to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1 through 11.9.2, inclusive).
  - 11.3.2 By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2.1).
  - 11.3.3 On the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's Fee for overhead and profit (determined as provided in paragraphs 11.6 and 11.7).

**Cost of the Work:**

- 11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by CITY, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5;
- 11.4.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by CITY and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise, and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by CITY.
  - 11.4.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless CITY deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to CITY. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to CITY, and CONTRACTOR shall make provisions so that they may be obtained.
  - 11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by CITY, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to CITY who will then determine, with the advice of ENGINEER, which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR's Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.
  - 11.4.4 Cost of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.
  - 11.4.5 Supplemental costs including the following:

- 11.4.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.
- 11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.
- 11.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements, approved by CITY with the advise of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work. Rental of Contractor's or other's equipment at the site shall be for hours used only.
- 11.4.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.
- 11.4.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- 11.4.5.6 Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the performance and furnishing of the Work provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of CITY. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's Fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.
- 11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.
- 11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.
- 11.4.5.9 Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5 The term Cost of the Work shall not include any of the following:

- 11.5.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4 - all of which are to be considered administrative costs covered by the CONTRACTOR's Fee.
- 11.5.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the

site.

- 11.5.3 Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.
- 11.5.4 Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 11.4.5.9 above).
- 11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.
- 11.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

**CONTRACTOR's Fee:**

11.6 The CONTRACTOR's Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

- 11.6.1 a mutually acceptable fixed fee; or if none can be agreed upon,
- 11.6.2 a fee based on the following percentages of the various portions of the Cost of the Work;
  - 11.6.2.1 for costs incurred under paragraphs 11.4.1 and 11.4.2, the CONTRACTOR's Fee shall be fifteen percent;
  - 11.6.2.2 for costs incurred under paragraph 11.4.3, the CONTRACTOR's Fee shall be five percent; and if a subcontract is on the basis of Cost of the Work plus a Fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors shall be fifteen percent;
  - 11.6.2.3 no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5, and 11.5;
  - 11.6.2.4 the amount of credit to be allowed by CONTRACTOR to CITY for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR's Fee by an amount equal to ten percent of the net decrease; and
  - 11.6.2.5 when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's Fee shall be computed on the basis of the net change in accordance with paragraphs 11.6.2.1 through 11.6.2.4 inclusive.

11.7 Whenever the cost of any Work is to be determined pursuant to paragraph 11.4 or 11.5, CONTRACTOR will submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

**Cash Allowances:**

11.8 It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to ENGINEER. CONTRACTOR agrees that:

- 11.8.1 The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and
- 11.8.2 CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

**Unit Price Work:**

- 11.9.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with Paragraph 9.10
- 11.9.2 Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

**ARTICLE 12 - CHANGE OF CONTRACT TIME**

- 12.1 The Contract Time may only be changed by a Change Order or a Written Amendment. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with paragraph 9.11 if CITY and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 12.1.
- 12.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefor as provided in paragraph 12.1. Such delays shall include, but not be limited to, acts or neglect by CITY or others performing additional work as contemplated by Article 7, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.
- 12.3 All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 12 shall exclude recovery for damages for delay by either party.

**ARTICLE 13 - WARRANTY AND GUARANTEE: TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

**Warranty and Guarantee:**

- 13.1 CONTRACTOR warrants and guarantees to CITY that all Work will be in accordance with the Contract

Documents and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

**Access to Work:**

13.2 ENGINEER and ENGINEER's representatives, other representatives of CITY, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

**Tests and Inspections:**

13.3 CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4 If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefor, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval. CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with CITY's or ENGINEER's acceptance of a Supplier of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals in addition to the above which are required by the Contract Documents shall be paid by CITY (unless otherwise specified).

13.5 All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to CITY and CONTRACTOR (or by ENGINEER if so specified).

13.6 If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.7 Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR's obligations to perform the Work in accordance with the Contract Documents.

**Uncovering Work:**

13.8 If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observations and replaced at CONTRACTOR's expense.

13.9 If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, if required (including but not limited to fees and charges of engineers, architects, attorneys and other professionals).

**CITY May Stop the Work:**

13.10 If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, CITY may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of CITY to stop the Work shall not give rise to

any duty on the part of CITY to exercise this right for the benefit of CONTRACTOR or any other party.

**Correction or Removal of Defective Work:**

- 13.11 If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

**One Year Correction Period:**

- 13.12 If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to CITY and in accordance with CITY's written instructions, either correct such defective Work, or, if it has been rejected by CITY, remove it from the site and replace it with non-defective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, CITY may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

**Acceptance of Defective Work:**

- 13.13 If, instead of requiring correction or removal and replacement of defective Work, CITY prefers to accept it, CITY may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to CITY's evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness and to include but not limited to fees and charges of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and CITY shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, CITY may make a claim therefor as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to CITY.

**CITY May Correct Defective Work:**

- 13.14 If CONTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraphs 13.11, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, CITY may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph CITY shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, CITY may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which CITY has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow CITY, CITY's representatives,

agents and employees such access to the site as may be necessary to enable CITY to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of CITY in exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and CITY shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, CITY may make a claim therefor as provided in Article 11. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by CITY of CITY's rights and remedies hereunder.

## **ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION**

### **Schedule of Values:**

14.1 The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

### **Application for Progress Payment:**

14.2 At least twenty days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that CITY has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect CITY's interest therein, all of which will be satisfactory to CITY. The amount of retainage with respect to progress payments will be 10 percent except as otherwise provided in the Supplementary Conditions.

### **CONTRACTOR's Warranty of Title:**

14.3 CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to CITY no later than the time of payment free and clear of all Liens.

### **Review of Applications for Progress Payment:**

14.4 ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to CITY, or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Ten days after presentation of the Application for Payment with ENGINEER's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by CITY to CONTRACTOR.

14.6 ENGINEER's recommendation of final payment will constitute an additional representation by ENGINEER to CITY that the conditions precedent to CONTRACTOR's being entitled to final payment as set forth in paragraph

14.13 have been fulfilled.

14.7 ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make such representations to CITY. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect CITY from loss because:

14.7.1 the Work is defective, or completed Work has been damaged requiring correction or replacement,

14.7.2 the Contract Price has been reduced by Written Amendment or Change Order,

14.7.3 CITY has been required to correct defective Work or complete Work in accordance with paragraph 13.14, or

14.7.4 of ENGINEER's actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.9 inclusive.

CITY may refuse to make payment of the full amount recommended by ENGINEER because claims have been made against CITY on account of CONTRACTOR's performance or furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling CITY to a set-off against the amount recommended, including liability for liquidated damages payable by the CONTRACTOR, but CITY must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action.

**Substantial Completion:**

14.8 When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify CITY and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, CITY, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to CITY a tentative certificate of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. CITY shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to CITY notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of CITY's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to CITY and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from CITY. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to CITY and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between CITY and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties. Unless CITY and CONTRACTOR agree otherwise in writing and so inform ENGINEER prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on CITY and CONTRACTOR until final payment.

14.9 CITY shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but CITY shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

**Partial Utilization:**

14.10 Use by CITY of any finished part of the Work, which has specifically been identified in the Contract Documents, or which CITY, ENGINEER and CONTRACTOR agree constitutes a separately functioning and useable part of the Work that can be used by CITY without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1 CITY at any time may request CONTRACTOR in writing to permit CITY to use any such part of the Work which CITY believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees, CONTRACTOR will certify to CITY and ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify CITY and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, CITY, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify CITY and CONTRACTOR in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2 CITY may at any time request CONTRACTOR in writing to permit CITY to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to ENGINEER and within a reasonable time thereafter CITY, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not object in writing to CITY and ENGINEER that such part of the Work is not ready for separate operation by CITY, ENGINEER will finalize the list of items to be completed or corrected and will deliver such list to CITY and CONTRACTOR together with a written recommendation as to the division of responsibilities pending final payment between CITY and CONTRACTOR with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon CITY and CONTRACTOR at the time when CITY takes over such operation (unless they shall have otherwise agreed in writing and so informed ENGINEER). During such operation and prior to Substantial Completion of such part of the Work, CITY shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

14.10.3 No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.14 in respect of property insurance.

**Final Inspection:**

14.11 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with CITY and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

**Final Application for Payment:**

14.12 After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents - all as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 14.16), CONTRACTOR may make application for final payment following the procedure for

progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to CITY) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by CITY, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which CITY or CITY's property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to CITY to indemnify CITY against any Lien.

**Final Payment and Acceptance:**

- 14.13 If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application to CITY for payment. Thereupon ENGINEER will give written notice to CITY and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.16. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Thirty days after presentation to CITY of the Application and accompanying documentation, in appropriate form and substance, and with ENGINEER's recommendation and notice of acceptability, the amount recommended by ENGINEER will become due and will be paid by CITY to CONTRACTOR.
- 14.14 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, CITY shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by CITY for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**CONTRACTOR's Continuing Obligation:**

- 14.15 CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Substantial Completion, nor any payment by CITY to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by CITY, nor any act of acceptance by CITY nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13, nor any correction of defective Work by CITY will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 14.16).

**Waiver of Claims:**

- 14.16 The making and acceptance of final payment will constitute:
- 14.16.1 a waiver of all claims by CITY against CONTRACTOR, except claims arising from unsettled Liens,

from defective Work appearing after final inspection pursuant to paragraph 14.11 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by CITY of any rights in respect of CONTRACTOR's continuing obligations under the Contract Documents; and

- 14.6.2 a waiver of all claims by CONTRACTOR against CITY other than those previously made in writing and still unsettled.

## **ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION**

### **CITY May Suspend Work:**

- 15.1 CITY may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.

### **CITY May Terminate:**

- 15.2 Upon the occurrence of any one or more of the following events:

- 15.2.1 if CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;
- 15.2.2 if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;
- 15.2.3 if CONTRACTOR makes a general assignment for the benefit of creditors;
- 15.2.4 if a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR's creditors;
- 15.2.5 if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;
- 15.2.6 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.9 as revised from time to time);
- 15.2.7 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;
- 15.2.8 if CONTRACTOR disregards the authority of ENGINEER; or
- 15.2.9 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

CITY may, after giving CONTRACTOR (and the surety, if there be one) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR

from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which CITY has paid CONTRACTOR but which are stored elsewhere, and finish the Work as CITY may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to CITY. Such costs incurred by CITY will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph CITY shall not be required to obtain the lowest price for the Work performed.

- 15.3 Where CONTRACTOR's services have been so terminated by CITY, the termination will not affect any rights or remedies of CITY against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by CITY will not release CONTRACTOR from liability.
- 15.4 Upon seven days' written notice to CONTRACTOR and ENGINEER, CITY may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court costs).

**CONTRACTOR May Stop Work or Terminate:**

- 15.5 If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by CITY or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted, or CITY fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to CITY and ENGINEER, terminate the Agreement and recover from CITY payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or CITY has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to CITY and ENGINEER stop the Work until payment of all amounts then due. The provision of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 6.29 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with CITY.

**ARTICLE 16 - MISCELLANEOUS**

**Giving Notice:**

- 16.1 Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

**Computation of Time:**

- 16.2.1 When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.
- 16.2.2 A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

**General:**

- 16.3 Should CITY or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 16.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.
- 16.4 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.30, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to CITY and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

**END OF SECTION**

**SECTION 00800**  
**SPECIAL CONDITIONS**

**PART 1 - GENERAL**

**1.1 NOTICES**

- A. In conformance with the requirements of the General Conditions all notices or other papers required to be delivered by the Contractor to the City shall be delivered to the office of Marty Martirone, P.E., City Engineer, Public Works Department, 1460A Shetter Ave, Jacksonville Beach, Florida (32250).

**1.2 LAYING OUT THE WORK**

- A. Prior to commencement of construction the Engineer will have established horizontal control throughout the site, which the Contractor shall use in laying out the work. The Contractor shall be responsible for establishing all lines and grades together with all reference points as required by the various trades for all work under this Contract. All required layout shall be done using competent and experienced personnel under the supervision of a Land Surveyor registered in the State of Florida.
- B. The Contractor shall provide all labor and instruments and stakes, templates, and other materials necessary for marking and maintaining all lines and grades. The lines and grades shall be subject to any checking the City or Engineer may decide necessary.
- C. No separate cost item is provided for laying out the work, the cost of which shall be included in the unit prices for items in the Proposal.
- D. No additional payment will be made for work completed at night such as water main or forcemain connections required to be done at night to minimize disruption to residents or sewer main services.

**1.3 CONTRACTOR'S OFFICE - N/A**

- A. The Contractor shall provide and maintain an office with telephone facilities where he or a responsible representative of his organization may be reached at any time while work is in progress.

**1.4 OBSTRUCTIONS**

- A. All water pipes, sanitary sewer pipes, storm drains, forcemains, gas or other pipe, telephone or power cables or conduits, curbs, sidewalks, all house services and all other obstructions, whether or not shown, shall be temporarily removed from, or supported across utility line excavations. Where it is necessary to temporarily interrupt house or business services, the Contractor shall notify the City or occupant, both before the interruption and again immediately before service is resumed. Before disconnecting any pipes or cables, the Contractor shall obtain permission from the City, or shall make suitable arrangements for their disconnection by the City. The Contractor shall be responsible for any damage to any such pipes, conduits or cables, and shall restore them to service promptly as soon as the work has progressed past the point involved. Approximate locations of known water, sanitary, drainage, power and telephone installations along the route of new pipelines or in the vicinity of new work are shown, but must be verified in the field by the Contractor. The Contractor shall uncover these pipes, ducts, cables, etc., carefully by hand, prior to installing new utility lines. Any discrepancies or necessary changes may be made to permit installation of new pipe. These conditions are supplemental to general requirements elsewhere in these specifications. Where fences, walls or other man-made obstructions exist illegally in the public right-of-way, the City shall have them removed upon adequate prior notice by the Contractor.

## **1.5 DAMAGE TO EXISTING STRUCTURES AND UTILITIES**

- A. The Contractor shall be responsible for and make good all damage to pavement beyond the limits of this Contract, buildings, telephone or other cables, water pipes, sanitary pipes, survey monuments or other structures which may be encountered, whether or not shown on the Drawings.
- B. Information shown on the Drawings as to the location of existing utilities has been prepared from the most reliable data available to the Engineer. This information is not guaranteed, however, and it shall be the Contractor's responsibility to determine the location, character and depth of any existing utilities. He shall assist the utility companies, by every means possible to determine said locations. Extreme caution shall be exercised to eliminate any possibility of any damage to utilities resulting from his activities.
- C. The Contractor shall be entirely responsible and liable for all damage or injury as a result of his operations to all other adjacent public and private property, structures of any kind and appurtenances thereto met with during the progress of the work.
- D. The cost of protection, replacement in their original locations and conditions, or payment of damages for injuries to such adjacent public and private property and structures affected by the work, whether or not shown on the Drawings, and the removal, relocation and reconstruction of such items called for on the drawings or specified shall be included in the various Contract Items and no separate payments will be made therefor.
- E. Contractor is expressly advised that the protection of buildings, structures, tunnels, tanks, pipelines, etc., and related work adjacent and in the vicinity of his operations, wherever they may be, is solely his responsibility.
- F. Conditional inspection of buildings or structures in the immediate vicinity of the project which may reasonably be expected to be affected by the Work shall be performed by and be the responsibility of the Contractor.
- G. Contractor shall, before starting operations, make an examination of the interior and exterior of the adjacent structures, buildings, facilities, etc., and record by notes, measurements, photographs, etc., conditions which might be aggravated by open excavation and construction shall be made to the satisfaction of the City and to the satisfaction of the Engineer. This does not preclude conforming to the requirements of the insurance underwriters. Copies of surveys, photographs, reports, etc., shall be given to the Engineer.

## **1.6 ADJUSTMENTS OF UTILITY CASTINGS, COVERS AND BOXES**

- A. All existing utility castings, including valve boxes, junction boxes, manholes, hand holes, pull boxes, inlets and similar structures in the areas of construction that are to remain in service shall be adjusted by the Contractor to bring them flush with the surface of the finished work.

## **1.7 TESTS**

- A. The Contractor will pay for all required tests including pressure leakage tests. Generally, tests will be concrete, LBR proctors, compaction and density tests, locate wire testing, and pressure leakage tests. On pipe, the manufacturer's or supplier's certificate that the material meets the requirements of the specification will be accepted subject to verification by the City's Engineer. Water required for leakage tests shall be furnished and paid for the by Contractor.

## **1.8 RECORD DRAWINGS**

- A. During the entire construction operation, the Contractor shall maintain records of all deviations from the Drawings and Specifications and shall prepare therefrom "record" drawings showing correctly and accurately all changes and deviations from the work made during construction to reflect the work as it was

actually constructed. These drawings shall conform to recognized standards of drafting, shall be neat and legible. Upon completion of the project, the "record" drawings shall be submitted to the Engineer on Auto-CAD, Release 2010 or latest version used by City. All inverts and locations shall be certified by a Land Surveyor registered in Florida. Final As-builts which have been reviewed and approved by the Engineer shall be submitted to the Jacksonville Beach Public Works Department in the following formats:

- 2 digital copies Auto-Cad, 2016 or latest version used by City
- 2 CD's with pdf's of signed and sealed digital copies
- 2 signed and sealed full size original paper copies

## **1.9 SUBSURFACE INVESTIGATION**

- A. The Contractor shall be responsible for having determined to his satisfaction, prior to the submission of his bid, the nature and location of the work, the conformation of the ground, the character and quality of the substrata, the types and quantity of materials to be encountered, the nature of the ground water conditions, the character of equipment and facilities needed preliminary to and during execution of the work, the general and local conditions and all other matters which can in any way affect the work under this contract. The prices established for the work to be done will reflect all costs pertaining to the work. Any claims for extras based on substrata or ground water table conditions will not be allowed.

## **1.10 WORK SCHEDULES AND OVERTIME**

- A. No work shall be done between the hours of 8:00 p.m. and 8:00 a.m., nor on Saturday, Sunday, or legal holidays observed by the City in any case, without the City's written approval.
- B. The normal work shift for the City's Inspector shall be 8 hours. Any excess during the permissible 12 hour work period, or on Saturday, Sunday, or legal holidays shall be considered overtime, and shall be paid for by the Contractor. If permission is obtained from the City to work between 8:00 p.m. and 8:00 a.m., the Contractor shall bear all expenses for inspection and testing which shall be required. Such overtime inspection expenses will be recovered by deductions from periodic partial payments.

## **1.11 CITY'S PROJECT REPRESENTATIVE**

- A. A City's Project Representative will be assigned to all utility projects.
- B. The Project Representative shall inspect all construction and materials, and shall inspect preparation, fabrication or manufacture of components, and materials and supplies.
- C. The Project Representative is not authorized to revoke, alter or waive any requirements of the specifications, but is authorized and expected to call to the attention of Engineer and/or Contractor any failure of work or materials to conform to the Drawings and Specifications. Inspectors shall have no authority to permit deviation from or to modify any of the provisions of the Drawings or Specifications without the written permission or instruction of the City with the concurrence of the Engineer, or to delay the Contractor by failure to observe the materials and work with reasonable promptness.
- D. The Project Representative shall have the authority to reject materials or suspend the work until questions of issue can be resolved to the City's satisfaction.
- E. The Project Representative shall in no case act as foreman, give advice or perform other duties for the Contractor nor interfere with the management of the work.
- F. Project Representative will make routine passes to inspect such items as thrust blocks, materials on site, and clearances between conflicting lines. Scheduled inspections are also required for jacking and boring operations, stream or ditch crossings and any time a connection is to be made to the City's system.

## **1.12 SURFACE RESTORATION**

- A. Disturbed surfaces shall be restored to equal or better condition than the original. Where detailed, the Drawings show minimum requirements.
- B. For driveways and public roads, restoration to the City's highway standards is the minimum requirement.

## **1.13 NOTIFICATION TO LOCAL RESIDENTS**

- A. At least five (5) days before the start of construction, the Contractor shall notify local residents along the route of the project of the work to be performed by distributing a flyer describing the work to be performed.

## **1.14 MODIFICATIONS TO THE GENERAL CONDITIONS, SECTION 00700**

- A. Article 1:
  - 1. Whenever the term ENGINEER is used it is construed to mean ARCHITECT/ENGINEER where the contract involves a building.
  - 2. CITY'S REPRESENTATIVE: A person appointed by the City to observe the work performed and the materials furnished by the Contractor. Unless otherwise stated, the person will be an employee of the City, not the ENGINEER.
  - 3. PROJECT REPRESENTATIVE: Same as CITY'S REPRESENTATIVE.
- B. Article 2:
  - 1. Amend paragraph 2.8 to read as follows:

Before Contractor starts the Work at the site, a conference attended by City, Contractor, Engineer and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.
- C. Article 6:
  - 1. Amend paragraph 6.7.3 to read as follows:

Engineer will be allowed a reasonable time within which to evaluate each proposed substitute. City will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without City's prior written acceptance, which will be evidenced by either a Change Order or an approved Shop Drawing. City may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute. Engineer will record time required by Engineer and Engineer's consultants in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not City accepts a proposed substitute, Contractor shall reimburse City for the charges of Engineer and Engineer's consultants for evaluating each proposed substitute.

## **PART 2 – PRODUCTS (NOT USED)**

## **PART 3 – EXECUTION (NOT USED)**

## **END OF SECTION**

00800-4

**SECTION 00844**  
**APPLICATION FOR PAYMENT**

The Application for Payment shall be made on an original AIA Document G702 and G703. Contractor shall attach supporting documentation to this form as necessary.

**END OF SECTION**

**SECTION 01000**  
**PROJECT REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Scope of Work: The work to be done consists of the furnishing of all labor, materials and equipment, and the performance of all work included in this Contract.
- B. Work Includes:
1. The Contractor shall furnish all labor, superintendence, materials, plant, power, light, heat, fuel, water, tools, appliances, equipment, supplies, and means of construction necessary for proper performance and completion of the work. The Contractor shall obtain and pay for all necessary local building permits. The Contractor shall perform and complete the work in the manner best calculated to promote rapid construction consistent with safety of life and property and to the satisfaction of the City's Representative, and in strict accordance with the Contract Documents. The Contractor shall clean up the work and maintain it during and after construction, until accepted, and shall do all work and pay all costs incidental thereto. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the work.
  2. The cost of incidental work described in these General Requirements, for which there are no specific Contract Items, shall be considered as part of the general cost of doing the work and shall be included in the prices for the various Contract Items. No additional payment will be made therefore.
  3. The Contractor shall provide and maintain such modern plant, tools, and equipment as may be necessary, in the opinion of the Engineer, to perform in a satisfactory and acceptable manner all the work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his workmanship, materials, and equipment, prior approval of the City's Representative notwithstanding.
  4. The Contractor shall restore all private property damaged by construction to its original condition as soon as practical. In addition, access to businesses located adjacent to the project site must be maintained at all times.
  5. The Contractor shall make exploratory excavations at all intersections of proposed work and existing utilities. If there is a potential conflict, the Contractor is to notify the Engineer immediately. Information on the obstruction to be furnished by the Contractor shall include: location, elevation, utility type, material and size.
  6. The Contractor shall pay for all inspections during the progress of the Work required by the City of all existing public utilities paralleling or crossing the Work, as shown on the Drawings. All such inspection fees shall be considered as part of the general cost of doing the Work and shall be included in the lump sum price as provided in the bid form for the Contract.
  7. The Contractor is responsible for managing all utility coordination, including, but not limited to, the following:
    - a. Ensuring that all utility coordination and activities are conducted in accordance with the requirements of the Contract Documents.
    - b. Scheduling and attending utility meetings, preparing and distributing minutes of all utility meetings, and ensuring expedient follow-up on all unresolved issues.

- c. Identifying and coordinating the execution and performance under any agreement that is required for any utility work needed within the Project.
- d. Resolving utility conflicts.
- e. Obtaining and maintaining all appropriate “Sunshine State One Call of Florida” tickets.
- f. Performing Constructability Reviews of plans prior to construction activities with regard to the installation, removal, temporary removal, de-energizing, deactivation, relocation, or adjustment of utilities.

The following Utilities have been identified in the project areas: Beaches Energy Services (electric), fiber optic (unknown provider), Comcast (telecommunication), City of Jacksonville Beach Water, Sewer, and Stormwater services, and gas (unknown provider).

C. Public Utility Installations and Structures:

1. Public utility installations and structures shall be understood to include all poles, tracks, pipes, wires, conduits, vaults, manholes and all other appurtenances and facilities pertaining thereto whether owned or controlled by the City, other governmental bodies or privately owned by individuals, firms or corporations, used to serve the public with transportation, traffic control, gas, electricity, telephone, sewerage, drainage, water or other public or private property which may be affected by the work shall be deemed included hereunder.
2. The Contract Documents contain data relative to existing public utility installations and structures above and below the ground surface. These data are not guaranteed as to their completeness or accuracy and it is the responsibility of the Contractor to make his own investigations to inform himself fully of the character, condition and extent of all such installations and structures as may be encountered and as may affect the construction operations.
3. The Contractor shall protect all public utility installations and structures from damage during the work. Access across any buried public utility installation or structure shall be made to avoid any damage to these facilities. All required protective devices and construction shall be provided by the Contractor at his expense. All existing public utilities damaged by the Contractor shall be repaired by the Contractor, at his expense. No separate payment shall be made for such protection or repairs to public utility installations or structures.
4. Public utility installations or structures owned or controlled by the City or other governmental body which are shown on the Drawings to be removed, relocated, replaced or rebuilt by the Contractor shall be considered as a part of the general cost of doing the work and shall be included in the prices bid for the various contract items. No separate payment shall be made therefore.
5. Where public utility installations of structures owned or controlled by the City or other governmental body are encountered during the course of the work, and are not indicated on the Drawings or in the Specifications, and when, in the opinion of the Engineer, removal, relocation, replacement or rebuilding is necessary to complete the work under this Contract, such work shall be accomplished by the utility having jurisdiction, or such work may be ordered, in writing by the Engineer, for the Contractor to accomplish. If such work is accomplished by the utility having jurisdiction it will be carried out expeditiously and the Contractor shall give full cooperation to permit the utility to complete the removal, relocation, replacement or rebuilding as required. If such work is accomplished by the Contractor, it will be paid for as extra work as provided in the Agreement.
6. The Contractor shall, at all times in performance of the work, employ acceptable methods and exercise reasonable care and skill so as to avoid unnecessary delay, injury, damage or destruction of public utility installations and structures; and shall, at all times in the performance of the work, avoid unnecessary interference with, or interruption of, public utility services, and shall cooperate fully with the owner thereof to that end.

7. The Contractor shall give written notice to City and other governmental utility departments and other owners of public utilities of the location of his proposed construction operations, at least forty-eight (48) hours in advance of breaking ground in any area or on any unit of the work.
8. The maintenance, repair, removal, relocation or rebuilding of public utility installations and structures, when accomplished by the Contractor as herein provided, shall be done by methods approved by the owners of such utilities.

## **1.2 DRAWINGS AND PROJECT MANUAL**

- A. Drawings: When obtaining data and information from the Drawings, figures shall be used in preference to scaled dimensions, and large scale drawings in preference to small scale drawings.
- B. Copies Furnished to Contractor:
  1. After the Contract has been executed, the Contractor will be furnished with three (3) complete printed sets of drawings (24 inches by 36 inches), one (1) complete set of reproducible drawings in PDF file (24 inches by 36 inches), three (3) complete printed sets of Project Manuals (including Contract Requirements and Specifications) and all Addenda, and one (1) PDF of Project Manuals (including Contract Requirements and Specifications) and all Addenda.
  2. The Contractor shall furnish each of the subcontractors, manufacturers, and material suppliers such copies of the Contract Documents as may be required for their work. All copies of the Contract Documents shall be printed from the reproducible sets furnished to the Contractor. All costs of reproduction and printing shall be borne by the Contractor.
- C. Supplementary Drawings:
  1. When, in the opinion of the Engineer, it becomes necessary to explain more fully the work to be done or to illustrate the work further or to show any changes which may be required, drawings known as Supplementary Drawings, with specifications pertaining thereto, will be prepared by the Engineer and the Contractor will be furnished with one (1) complete set of reproducible drawings in PDF file (24 inches by 36 inches) and one (1) PDF of the related specifications.
  2. The Supplementary Drawings shall be binding upon the Contractor with the same force as the Contract Drawings. Where such Supplementary Drawings require either less or more than the estimated quantities of work, credit to the City or compensation therefor to the Contractor shall be subject to the terms of the Agreement.
- D. Contractor to Check Drawings and Data:
  1. The Contractor shall verify all dimensions, quantities, and details shown on the Drawings, Supplementary Drawings, schedules, Specifications, or other data received from the Engineer, and shall notify him of all errors, omissions, conflicts, and discrepancies found therein. Failure to discover or correct errors, conflicts or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory work, faulty construction or improper operation resulting therefrom nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of any errors or omissions, as full instructions will be furnished by the Engineer, should such errors or omissions be discovered.
  2. All schedules are given for the convenience of the Engineer and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the size, kind, and quality of materials and equipment included in work to be done under the Contract.

- E. Specifications: The Technical Specifications consist of three (3) parts: General, Products and Execution. The General part of a section contains General Requirements, which govern the work.

Products and Execution Parts modify and supplement the General Requirements by detailed requirements for the work and shall always govern whenever there appears to be a conflict.

- F. Intent:

1. All work called for in the Specifications applicable to this Contract, but not shown on the Drawings in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Drawings or in the Specifications but involved in carrying out their intent or in the complete and proper execution of the work, is required and shall be performed by the Contractor as though it were specifically delineated or described.
2. The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, the interpretation of these Specifications shall be made upon that basis.

### **1.3 MATERIALS AND EQUIPMENT**

- A. Manufacturer:

1. The names of proposed manufacturers, material suppliers and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Engineer for approval, as early as possible, to afford proper investigation and checking. Such approval must be obtained before Shop Drawings will be checked. No manufacturer will be approved for any materials to be furnished under this Contract unless he shall be of good reputation and have a plant of ample capacity. He shall, upon the request of the Engineer, be required to submit evidence that he has manufactured a similar product to the one specified and that it has been previously used for a like purpose for a minimum of five (5) years to demonstrate its satisfactory performance.
2. All transactions with the manufacturers or subcontractors shall be through the Contractor, unless the Contractor shall request and at the Engineer's option, that the manufacturer or subcontractor deal directly with the Engineer. Any such transactions shall not in any way release the Contractor from his full responsibility under this Contract.
3. Any two (2) or more pieces of material or equipment of the same kind, type or classification, and being used for identical types of service, shall be made by the same manufacturer.
4. Major pieces of equipment are listed in the Bid Proposal and are required to be named as part of said Bid Proposal.

- B. Delivery:

1. The Contractor shall deliver materials in ample quantities to insure the most speedy and uninterrupted progress of the work so as to complete the work within the allotted time.
2. The Contractor shall also coordinate deliveries in order to avoid delay in, or impediment of, the progress of the work of any related Contractor.

- C. Tools and Accessories:

1. The Contractor shall, unless otherwise stated in the Contract Documents, furnish with each type, kind or size of equipment, one complete set of suitably marked high grade special tools and appliances which may be needed to adjust, operate, maintain or repair the equipment. Such tools and appliances shall be furnished in approved painted steel cases, properly labeled and equipped with good grade cylinder locks and duplicate keys.
2. Spare parts shall be furnished as specified herein and as recommended by the manufacturer necessary for the operation of the equipment, not including materials required for routine maintenance.
3. Each piece of equipment shall be provided with a substantial nameplate, securely fastened in place and clearly inscribed with the manufacturer's name, year of manufacture, serial number, weight and principal rate data.

D. Service of Manufacturer's Engineer:

1. The Contract prices for equipment shall include the cost of furnishing a competent and experienced engineer or superintendent who shall represent the manufacturer and shall assist the Contractor, when required, to install, adjust, test and place in operation, the equipment in conformity with the Contract Documents.
2. After the equipment is placed in permanent operation by the City, the Contractor shall make all adjustments and tests required by the Engineer to prove that such equipment is in proper and satisfactory operating condition and shall instruct operating personnel as may be designated by the City in the proper operation and maintenance of such equipment.

#### 1.4 INSPECTION AND TESTING

A. General:

1. For tests specified to be made by the Contractor, the testing personnel shall make the necessary inspections and tests and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Contract Documents. Three (3) copies of the reports shall be submitted and authoritative certification thereof must be furnished to the Engineer as a prerequisite for the acceptance of any material or equipment.
2. If, in the making of any test of any material or equipment, it is ascertained by the Engineer that the material or equipment does not comply with the Contract Documents, the Contractor will be notified thereof and he will be directed to refrain from delivering said material or equipment, or to remove it promptly from the site or from the work and replace it with acceptable material, without cost to the City.
3. Tests of electrical and mechanical equipment and appliances shall be conducted in accordance with the recognized test codes of the ANSI, ASME, or the IEEE, except as may otherwise be stated herein.
4. The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time when the City formally takes over the operation thereof.

B. Costs:

1. All inspection and testing of materials furnished under this Contract will be provided by the Contractor, unless otherwise expressly specified.

2. The cost of shop and field tests of equipment and of certain other tests specifically called for in the Contract Documents shall be borne by the Contractor and such costs shall be deemed to be included in the Contract price.
3. Materials and equipment submitted by the Contractor as the equivalent to those specifically named in the Contract may be tested by the City for compliance. The Contractor shall reimburse the City for the expenditures incurred in making such tests of materials and equipment which are rejected for non-compliance.

C. Inspection of Materials:

1. The Contractor shall give notice in writing sufficiently in advance of his intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice shall contain a request for inspection, the date of commencement and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice, the City will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials or he will notify the Contractor that the inspection will be made at a point other than the point of manufacture.
2. The Contractor must comply with these provisions before shipping any material. Such inspection shall not release the Contractor from the responsibility for furnishing materials meeting the requirements of the Contract Documents.

D. Certificate of Manufacture:

1. When inspection is waived or when the City so requires, the Contractor shall furnish to him authoritative evidence in the form of Certificate of Manufacture that the materials to be used in the work have been manufactured and tested in conformity with the Contract Documents.
2. These certificates shall be notarized and shall include copies of the results of physical tests and chemical analyses, where necessary, that have been made directly on the product or on similar products of the manufacturer.

E. Shop Tests:

1. Each piece of equipment for which pressure, duty, capacity, rating, efficiency, performance, function or special requirements are specified shall be tested in the shop of the maker in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents.
2. No such equipment or materials shall be shipped to the work site until the Engineer notifies the Contractor, in writing, that the results of such tests are approved.
3. Four (4) copies of the manufacturer's actual test data and interpreted results thereof, accompanied by a certificate of authenticity sworn to by a responsible official of the manufacturing company and/or independent laboratory, shall be submitted to the Engineer for approval.
4. The cost of shop tests and of furnishing manufacturer's preliminary and shop test data of operating equipment shall be borne by the Contractor.

F. Start Up Tests:

1. As soon as conditions permit, the Contractor shall furnish all labor, materials, and instruments and shall make start-up tests of equipment. The equipment manufacturer shall conduct start-up tests for their equipment.

2. If the start-up tests disclose any equipment furnished under this Contract, which does not comply with the requirements of the Contract Documents, the Contractor shall, prior to demonstration tests, make all changes, adjustments and replacements required. The furnishing Contractor shall assist in the start-up tests as applicable.

G. Demonstration Tests:

1. Upon completion of the work and prior to final payment, all equipment and piping installed under this Contract shall be subjected to demonstration tests as specified or required to provide compliance with the Contract Documents.
2. The Contractor shall furnish labor, fuel, energy, water and all other materials, equipment and instruments necessary for all demonstration tests, at no additional cost to the City. The furnishing Contractor shall assist in the demonstration tests as applicable.

H. Final Inspection: During such final inspections, the work shall be clean and free from standing water. In no case will the final estimate be prepared until the Contractor has complied with all requirements set forth and the Engineer and City have made their final inspection with the Contractor of the entire work and are satisfied that the entire work is properly and satisfactorily constructed in accordance with the requirements of the Contract Documents.

## 1.5 TEMPORARY STRUCTURES

- A. Temporary Fences: If during the course of the work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall provide a suitable temporary fence at his own expense.
- B. Responsibility for Temporary Structures: In accepting the Contract, the Contractor assumes full responsibility for the sufficiency and safety of all temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance or operation and will indemnify and save harmless the City from all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provisions.

## 1.6 TEMPORARY SERVICES

A. Accident Prevention:

1. Precautions shall be exercised at all times for the protection of person and property. The safety provisions of applicable laws, building and construction codes shall be observed.
2. The Contractor shall comply with the U.S. Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596), and under Section 107 of the contract work. Hours and Safety Standards Act (PL 91- 54), except where state and local safety standards have been approved by the Secretary of Labor in accordance with provisions of the Occupational Safety and Health Act, shall be complied with.

B. First Aid: The Contractor shall keep upon the site, at each location where work is in progress, a completely equipped first aid kit and shall provide ready access thereto at all times when persons are employed on the work.

## 1.7 LINES AND GRADES

A. Grade:

1. All work under this Contract shall be constructed in accordance with the lines and grades shown on the Drawings, or as given by the Engineer. The full responsibility for keeping alignment and

grade shall rest upon the Contractor.

2. The Engineer will establish bench marks and base line controlling points. Reference marks for lines and grades as the work progresses will be located by the Contractor to cause as little inconvenience to the prosecution of the work as possible. The Contractor shall so place excavation and other materials as to cause no inconvenience in the use of the reference marks provided. He shall remove any obstructions placed by him contrary to this provision.

B. Surveys:

1. The Contractor shall furnish and maintain, at his own expense, stakes and other such materials.
2. The Contractor shall check such reference marks by such means as he may deem necessary and, before using them, shall call the Engineer's attention to any inaccuracies.
3. The Contractor shall, at his own expense, establish all working or construction lines and grades as required from the reference marks set by the survey, and shall be solely responsible for the accuracy thereof. He shall, however, be subject to the check and review by the Engineer.

C. Safeguarding Marks:

1. The Contractor shall safeguard all points, stakes, grade marks, monuments and bench marks made or established on the work, bear the cost of re-establishing them if disturbed, and bear the entire expense of rectifying work improperly installed due to not maintaining or protecting or to removing without authorization such established points; stakes and marks.
2. The Contractor shall safeguard all existing and known property corners, monuments and marks adjacent to but not related to the work and, shall bear the cost of re-establishing them if disturbed or destroyed.

## 1.8 ADJACENT STRUCTURES AND LANDSCAPING

A. Responsibility:

1. The Contractor shall also be entirely responsible and liable for all damage or injury as a result of his operations to all other adjacent public and private property, structures of any kind and appurtenances thereto met with during the progress of the work.
2. The cost of protection, replacement in their original locations and conditions or payment of damages for injuries to such adjacent public and private property and structures affected by the work, whether or not shown on the Drawings, and the removal, relocation and reconstruction of such items called for on the Drawings or specified shall be included in the various Contract items and no separate payments will be made there for.
3. Contractor is expressly advised that the protection of buildings, structures, tunnels, tanks, pipelines, etc. and related work adjacent and in the vicinity of his operations, wherever they may be, is solely his responsibility.
4. Conditional inspection of buildings or structures in the immediate vicinity of the project which may reasonably be expected to be affected by the Work shall be performed by and be the responsibility of the Contractor.
5. Contractor shall, before starting operations, make an examination of the interior and exterior of the adjacent structures, buildings, facilities, etc., and record by video tape, conditions which might be aggravated by open excavation and construction. Repairs or replacement of all conditions

disturbed by the construction shall be made to the satisfaction of the City. This does not preclude conforming to the requirements of the insurance underwriters. Copies of surveys, photographs, reports, etc., shall be given to the City.

6. Prior to the beginning any excavations, the Contractor shall advise the Engineer of all buildings or structures on which he intends to perform work or which performance of the project work will affect.
- B. Protection of Trees: All trees and shrubs shall be adequately protected by the Contractor per the requirements of the Contract Documents and in accordance with ordinances governing the protection of trees. No excavated materials shall be placed so as to injure such trees or shrubs. Trees or shrubs destroyed by the Contractor or his employees shall be replaced by him with new stock of similar size and age, at its proper season and at the sole expense of the Contractor.
- C. Lawn Areas: Lawn areas shall be left in as good condition as before the starting of the work. Where sod is to be removed, it shall be carefully removed, and later replaced, or the area where sod has been removed shall be restored with new sod. Before beginning construction, Contractor shall prepare a video tape along the path of construction showing the date, time, and right-of-way conditions for submission to the Engineer.
- D. Restoration of Fences:
1. Any fence, or part thereof, that is damaged or removed during the course of the work shall be replaced or repaired by the Contractor and shall be left in as good a condition as before the starting of the work.
  2. The manner in which the fence is repaired or replaced and the materials used in such work shall be subject to the approval of the City.
  3. Other than those areas of the project where fencing is specifically called for removal and replacement with new fencing, the cost of all labor, materials, equipment, and work for the replacement or repair of any fence shall be deemed included in the appropriate Contract item or items, or if no specific item is provided therefore, as part of the overhead cost of the work, and no additional payment will be made therefor.
- E. Restoration of Irrigation Sprinkler Systems:
1. Contractor shall contact each property owner along the route of new piping and construction and locate any existing irrigation/sprinkler systems. Contractor shall be responsible for the repair/replacement of any damaged irrigation/sprinkler systems on private property or City right-of-ways due to work being performed by Contractor or subcontractors. The Contractor shall have three (3) working days to repair the damaged irrigation/sprinkler system from the date of damage. If the irrigation/sprinkler system has not been repaired within the three (3) working days, the Engineer/City will notify the Contractor in writing that the Contractor has five (5) additional days in which to repair the damaged irrigation/sprinkler system or the City will authorize the property owner of said damage area to have the system repaired by an independent irrigation/sprinkler company and that cost will be deducted from the Contractor's final contract price.

## **1.9 PROTECTION OF WORK AND PUBLIC**

### **A. Barriers and Lights:**

1. During the prosecution of the work, the Contractor shall install and maintain at all times such barriers and lights as will effectually prevent accidents. The Contractor shall provide suitable barricades, red lights, "danger" or "caution" or "street closed" signs and safety personnel at all

places where the work causes obstructions to the normal traffic or constitutes in any way a hazard to the public.

B. Noise:

1. The Contractor shall eliminate noise to as great an extent as practicable at all times. Air compressing equipment shall be maintained with silencers and the exhaust of all gasoline motors or other power equipment shall be provided with mufflers. The Contractor shall construct sound barriers as necessary to eliminate noise.
2. In the vicinity of hospitals and schools, special care shall be used to avoid noise or other nuisances. The Contractor shall strictly observe all local regulations and ordinances covering noise control.
3. Except in the event of an emergency, no work shall be done between the hours of 8:00 p.m. and 8:00 a.m., or on Sundays or legal holidays without written permission of the City. If the proper and efficient prosecution of the work requires operations during the night, the written permission of the City shall be obtained before starting such items of the work.

C. Access to Public Services: Neither the materials excavated nor the materials or equipment used in the construction of the work shall be so placed as to prevent free access to all fire hydrants, valves, manholes, etc.

D. Dust Prevention: The Contractor shall prevent dust nuisance from his operations or from traffic by keeping the roads clean and/or construction areas sprinkled with water at all times.

**1.10 CUTTING AND PATCHING:**

A. The Contractor shall do all cutting, fitting or patching of his portion of the work that may be required to make the several parts thereof join and coordinate in a manner satisfactory to the Engineer and in accordance with the Drawings and Specifications.

B. The work must be done by competent workmen skilled in the trade required by the restoration.

**1.11 CLEANING**

A. During Construction:

1. During construction of the work, the Contractor shall, at all times, keep the site of the work and adjacent premises as free from material, debris and rubbish as is practicable and shall remove the same from any portion of the site if, in the opinion of the City, such material, debris, or rubbish constitutes a nuisance or is objectionable.
2. The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefore develops. Contractor shall be responsible and liable for all spillage and incur all associated costs including, but not limited to, costs related to repair and maintenance resulting from damages thereof.

B. Final Cleaning:

1. At the conclusion of the work, all erection equipment, tools, temporary structures and materials belonging to the Contractor shall be promptly taken away, and he shall remove and promptly dispose of all water, dirt, rubbish or any other foreign substances.
2. The Contractor shall thoroughly clean all equipment and materials installed by him and shall deliver such materials and equipment undamaged in a bright, clean, polished and new operation

condition.

## **1.12 MISCELLANEOUS**

- A. Protection Against Siltation and Bank Erosion:
  - 1. The Contractor shall arrange his operations and construct erosion control devices to minimize siltation and bank erosion on construction sites and on existing or proposed water courses and drainage channels.
  - 2. The Contractor, at his own expense, shall remove any siltation deposits and correct any erosion problems as directed by the Engineer, which results from his construction operations.
- B. Protection of Wetland Areas:
  - 1. The Contractor shall properly dispose of all surplus material, including soil, in accordance with local, state and federal regulations.
  - 2. Under no circumstances shall surplus material be disposed of in wetland areas as defined by the Florida Department of Environmental Protection or the St. Johns River Water Management District.
- C. Existing Facilities: The work shall be so conducted to maintain existing facilities in operation insofar as is possible.
- D. Use of Chemicals: All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfection, polymer, reactant, or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.
- E. Cooperation with Other Contractors and Forces:
  - 1. During progress of work under this Contract, it may be necessary for other Contractors and persons employed by the City to work in or about the project.
  - 2. The City reserves the right to put such other Contractors to work and to afford such access to the Site of the Work to be performed hereunder at such times as the City deems proper.
  - 3. The Contractor shall not impede or interfere with the work of such other Contractors engaged in or about the work and shall so arrange and conduct his work that such other Contractors may complete their work at the earliest date possible.
- F. Construction shall be conducted and shall result in construction of the improvements of this project in full accordance with the conditions of the Permits granted for the Project.
- G. The work of others may interface with the work by the Contractor. The Contractor is responsible to meet and coordinate this work with that of others so that the City obtains a safe, efficient, timely completion of all work constructed. No additional time or compensation will be granted for this coordination of efforts.

## **PART 2- PRODUCTS (NOT USED)**

**PART 3- EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 01010**  
**SUMMARY OF WORK**

**PART 1 - GENERAL**

**1.01 WORK COVERED BY CONTRACT DOCUMENTS**

- A. This Contract comprises the improvements of four sites as shown on the Drawings and specified herein.
- B. The 8-inch water main along 7<sup>th</sup> Avenue South work consists of furnishing all labor, equipment and materials for the water system improvements. The general summary of work is as listed:
- Provide and pass out notices to residents and/or businesses concerning various stages of construction. Construction stages include, but are not limited to:
    - Initial construction
    - Water outages
    - Off-hour work
    - Holiday work
  - Provide measures for maintenance of traffic.
  - Provide measures for erosion, sedimentation, & pollution control.
  - Install 8-inch x 8-inch stainless steel tapping sleeve and valve on existing 8-inch water main in 1<sup>st</sup> Street S.
  - Install ~140 linear feet (LF) of 8-inch PVC (DR18) water main, ~15 LF of 2-inch PVC (SDR21) water pipe, and ~110 LF of 1-inch polytube (SDR9) water service piping.
  - Install 2-inch flushing valve assembly.
  - Install 4-inch water service assembly with bypass, tee for 6-inch fire service, and 1-inch water service.
  - Remove three palm trees.
  - Open cut across pavement on 1<sup>st</sup> Street South, curb & gutter, grass, and sidewalk.
  - Site restoration.
- C. The 8-inch gravity sewer along Shetter Avenue work consists of furnishing all labor, equipment and materials for the sewer system improvements. The general summary of work is as listed:
- Provide and pass out notices to residents and/or businesses concerning various stages of construction. Construction stages include, but are not limited to:
    - Initial construction
    - Water/Sewer outages
    - Off-hour work
    - Holiday work
  - Provide measures for maintenance of traffic.
  - Provide measures for erosion, sedimentation, & pollution control.
  - Installation of two (2) Type "A" Manholes and Spectrashield coating.
  - Install ~260 LF of 8-inch PVC (SDR26) gravity sewer main.
  - Core drill into existing manhole and connect new 8-inch gravity sewer main.
  - Install sewer service laterals and cleanouts.
  - Abandon ~320 LF of existing 6-inch gravity sewer main by grout filling; remove two (2) existing cleanouts; cap existing gravity sewer in several locations.
  - Site restoration.
- D. The 8-inch gravity sewer along 8<sup>th</sup> Avenue North work consists of furnishing all labor, equipment and materials for the sewer system improvements. The general summary of work is as listed:
- Provide and pass out notices to residents and/or businesses concerning various stages of construction. Construction stages include, but are not limited to:

- Initial construction
    - Water/Sewer outages
    - Off-hour work
    - Holiday work
  - Provide measures for maintenance of traffic.
  - Provide measures for erosion, sedimentation, & pollution control.
  - Installation of one (1) Type “A” Manhole and Spectrashield coating.
  - Install ~210 LF of 8-inch PVC (SDR26) gravity sewer main; locate and connect to existing 8-inch stubout.
  - Install sewer service laterals and cleanouts.
  - Reroute sewer service laterals from existing homes/properties to new laterals at property line; abandon remaining unused sewer service laterals.
  - Site restoration.
- E. Sewer improvements for the existing sewer services from the Burrito Gallery/AT&T and Verizon Buildings consists of furnishing all labor, equipment and materials for the sewer rehabilitation efforts. The general summary of work is as listed:
- Provide and pass out notices to residents and/or businesses concerning various stages of construction. Construction stages include, but are not limited to:
    - Initial construction
    - Water/Sewer outages
    - Off-hour work
    - Holiday work
  - Provide measures for erosion, sedimentation, & pollution control.
  - Coordination with Burrito Gallery/AT&T and Verizon buildings businesses and, if necessary, bypassing operations.
  - Remove the existing sewer service tee and existing sewer main tap.
  - Install saddle manhole complete with concrete fill, channels; and tie-in service laterals.
  - Site restoration.
- F. The Contractor shall furnish all labor, equipment, tools, services and incidentals to complete all Work required by these Specifications and as shown on the Drawings. Contractor shall be responsible for properly unloading, storing, installing and maintaining all materials and equipment.
- G. The Contractor shall perform the Work complete, in place, and ready for continuous service, and shall include repairs, testing, permits, cleanup, replacements and restoration required as a result of damages caused during this construction.
- H. All materials, equipment, skills, tools and labor which are reasonably and properly inferable and necessary for the proper completion of the Work in a substantial manner and in compliance with the requirements stated or implied by these Specifications or Drawings shall be furnished and installed by the Contractor without additional compensation, whether specifically indicated in the Contract Documents or not.
- I. The Contractor shall comply with all Municipal, County, State, Federal, and other codes which are applicable to this Project.

## **1.02 CONTRACTOR'S USE OF PREMISES**

The Contractor shall assume full responsibility for the protection and safekeeping of products and materials at the job site. If additional storage or work areas are required, they shall be obtained by the Contractor at no additional cost to the Owner.

### **1.03 WORK SEQUENCE**

- A. The Contract Time shall be as noted in Section 00500 Contract Agreement; however the project has a specific sequence of construction to address a priority aspect of the project.
  - a. Construction Sequencing:
    - i. The water system improvements along 7<sup>th</sup> Avenue South shall be completed, tested, and accepted within 45 days of issuance of the Notice to Proceed. This shall not prohibit the Contractor from working on the other portions of the project during this period.
    - ii. The Contractor shall establish his work sequence based on the use of sufficient crews to facilitate completion of construction and testing for the entire project within the allotted Contract Time.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 01025  
MEASUREMENT AND PAYMENT**

**A. GENERAL**

1. The CONTRACTOR shall receive and accept the compensation provided in the Proposal and the Contract as full payment for furnishing all materials, labor, tools and equipment, for performing all operations necessary to complete the work under the Contract, and also in full payment for all loss or damages arising from the nature of the work, or from any discrepancy between the actual quantities of work and quantities herein estimated by the Engineer, or from the action of the elements or from any unforeseen difficulties which may be encountered during the prosecution of the work until the final acceptance by the CITY.
2. The prices stated in the proposal include all costs and expenses for taxes, labor, equipment, materials, commissions, transportation charges and expenses, patent fees and royalties, labor for handling materials during inspection, together with any and all other costs and expenses for performing and completing the work as shown on the Drawings and specified herein. The basis of payment for an item at the unit price shown in the proposal shall be in accordance with the description of that item in this Section.
3. The CONTRACTOR's attention is called to the fact that the quotations for the various items of work are intended to establish a total price for completing the work in its entirety. Should the CONTRACTOR feel that the cost for any item of work has not been established by the Bid Form or Payment Items, he shall include the cost for that work in some other applicable bid item, so that his proposal for the project does reflect his total price for completing the work in its entirety.
4. Contractor Storage Site / Lay Down Yard / Temporary Office: Measurement for Contractor Storage Site / Lay Down Yard / Temporary Office will not be made for payment and all items shall be included in the unit price of project unit items installed.
5. Regular Excavation: Measurement for regular excavation will not be made for payment and all items shall be included in the unit price of project unit items installed.
6. Miscellaneous Work Items: Measurement for miscellaneous work items such as mobilization / demobilization, testing and reporting, temporary fencing, temporary facilities, as-builts/record drawings, and others items not specifically listed in the Bid Proposal Form will not be made for payment and all items shall be included in the unit price of project unit items installed.

**B. MEASUREMENT**

1. The quantities for payment under this Contract shall be determined by actual measurement of the completed items, in place, ready for service and accepted by the CITY, in accordance with the applicable method of measurement therefor contained herein. A representative of the CONTRACTOR shall witness all field measurements.

**C. WORK ITEMS NOT PAID FOR SEPARATELY**

1. Color Audio-Video Recording: Measurement for pre-construction color audio-video recording will not be made for payment and all items shall be included in the unit price of project unit items installed.
2. Construction Photographs: Measurement for construction photographs will not be made for payment and all items shall be included in the unit price of project unit items installed.
3. Maintenance and Protection of Traffic: Measurement for maintenance and protection of traffic will not be made for payment and all items of work or material required to maintain pedestrian and vehicular traffic per City of Jacksonville Beach standards shall be included in the unit price of project unit items installed. Items related to maintenance and protection of traffic include but are not limited to temporary signing,

barriers, drums or markers, flagging/flaggers, warning lights/flashers, lighted sign boards, safety ropes, temporary striping, temporary tape, and other materials as necessary to maintain the traffic control detour. Also included is furnishing, installing and maintaining a Traffic Control Plan, control and safety devices, control of dust, temporary crossing structures over trenches, any necessary detour facilities, and other special requirements for the safe and expeditious movements of traffic, including vehicular, bicycle, and pedestrian.

4. Soil Erosion and Sediment Control: Measurement for soil erosion and sediment control will not be made for payment and all items shall be included in the unit price of project unit items installed. Items related to soil erosion and sediment control includes all items of work to comply with NPDES best management practices to prevent runoff and erosion from project site and also includes all work outlined in the project general notes and erosion control drawings and details shown in the Drawings.

#### **D. PAY ITEMS**

##### **1. PAYMENT AND PERFORMANCE BONDS**

This lump sum item shall be full compensation for providing the Performance and Payment Bonds as described in Section 00610 Performance Bond and Section 00620 Payment Bond. Item shall not exceed 1.5% of project bid.

##### **2. PRESSURE PIPING (WATER MAIN) (VARIES BY SIZE, TYPE, AND MATERIAL, BY OPEN CUT)**

Measurement of Pressure Piping regardless of size, type, and material, shall be the horizontal distance in linear feet measured along the centerline of the pipe satisfactorily furnished and installed. Payment for Pressure Piping will be made at the contract unit price per linear foot for the respective size and type which price and payment shall be full compensation for all labor, materials, and equipment to construct the respective pipeline including mobilization, pre-construction and progress video, construction photographs, coordination with existing utilities, protection of existing utilities including service connections, tree protection, clearing, grubbing, filling/leveling and stabilizing work areas, removal or relocation of items within the work area as noted on Construction Drawings including but not limited to signs, guardrails, fencing, etc., excavation, sheeting, shoring and bracing, dewatering, groundwater treatment and disposal, pipe bedding, backfill, compaction, and grading, joining piping, all testing including temporary sample taps as necessary, flushing, disinfection, and clean-up. This item also includes all necessary restraining devices, locate wire system, detection tape, identification markers, and restoration not included in other separate pay items in this section.

##### **3. TAPPING SLEEVE AND VALVE WITH BOX AND COVER (VARIES BY SIZE AND MATERIAL)**

Tapping Sleeve and Valve with Box and Cover shall be measured by the actual number of each (by size and material) satisfactorily furnished and installed. Payment for Tapping Sleeve and Valve will be made at the contract unit price for each respective item and shall be full compensation for all labor, materials, and equipment for the item of work complete, including all necessary excavation, backfill, compaction; dewatering and groundwater treatment; jointing, adapter pieces, concrete supports (if applicable); tapping sleeve, tapping valve, mechanical restraints at valve; electronic ball markers; all nuts, bolts, socket clamps; valve box, valve box extensions (if applicable) and valve box cover; debris shield; furnishing all material, labor, tools and equipment; flushing and disinfecting; performing hydrostatic and leakage testing, restoration not included in other separate pay items in this section, and all incidental and related work required to complete the item.

##### **4. 2" FLUSHING ASSEMBLY**

Measurement of 2" Flushing Assembly shall be by the actual number of each satisfactorily furnished and installed. Payment for 2" Flushing Assembly will be made at the contract unit price for each and shall be full compensation for all labor, materials, and equipment for the item of work complete, including all necessary

excavation, backfill, compaction; dewatering and groundwater treatment; installing box and cover; valves; piping; bedding; flushing and disinfection; sample taps installed and removed; restoration not included in other separate pay items in this section; and all incidental and related work to complete the item.

**5. DUCTILE IRON FITTINGS (VARIES BY SIZE AND TYPE)**

Measurement of Ductile Iron Fittings will be measured by the actual number of each (by type and size) satisfactorily furnished and installed. Payment for Ductile Iron Fittings will be made at the contract unit price for each respective item and shall be full compensation for all labor, materials, and equipment for the item of work complete, including all necessary excavation, backfill, compaction; dewatering and groundwater treatment; joining, concrete supports (if applicable); fitting, joint restraints, all nuts, bolts; flushing and disinfecting; performing hydrostatic and leakage testing; restoration not included in other separate pay items in this section; and all incidental and related work required to complete the item.

**6. CASE B UTILITY CONFLICT WITH DUCTILE IRON FITTINGS (VARIES BY SIZE AND TYPE)**

Measurement of Case B Utility Conflict with Ductile Iron Fittings will be by the actual number of each (by size and type) satisfactorily furnished and installed. Payment for Case B Utility Conflict with Ductile Iron Fittings will be made at the contract unit price per each for the item satisfactorily installed, and such payment shall include full compensation for all labor, materials, and equipment for the item of work complete, including all necessary excavation, sheeting, shoring and bracing, backfill, compaction; dewatering and groundwater treatment; fittings, joint restraints and other materials, supports, joining, all nuts, bolts; flushing and disinfecting; performing hydrostatic and leakage testing; restoration not included in other separate pay items in this section; and all incidental and related work required to complete the item.

**7. 4-INCH WATER SERVICE ASSEMBLY**

Measurement for the 4-Inch Water Service Assembly will be by the actual number of each satisfactorily furnished and installed. Payment for the 4-Inch Water Service Assembly will be made by the contract unit price per each for the item satisfactorily installed. The 4-Inch Water Service Assembly is defined, for this project, as all piping, valves, fittings, restraints, meter box, and other accessories from the 4-inch branch of the 8"x4" tee through the noted "Limit of Construction for 4" Water Service" per Inset "A" on Drawing C-1. The meter will be provided by the City for installation by the Contractor.

Payment for the 4-Inch Water Service Assembly will be made at the contract unit price for the item satisfactorily installed, and such payment shall include full compensation for all labor, materials, and equipment for the item of work complete, including all necessary excavation, backfill, compaction; dewatering and groundwater treatment; piping, fittings, valves, joint restraints and other materials, supports, joining, all nuts, bolts; meter box; locate wiring; flushing and disinfecting; performing hydrostatic and leakage testing, restoration not included in other separate pay items in this section, and all incidental and related work required to complete the item.

**8. WATER SERVICES (VARIES BY TYPE, SIZE, AND SERVICE USE)**

Measurement for Water Services will be by the actual number of each (by type, size, and service use) satisfactorily furnished and installed. Payment for Water Services will be made at the contract unit price per each for the item satisfactorily installed, and such payment shall include full compensation for all labor, materials, and equipment for the item of work complete, including all necessary excavation, backfill, compaction; dewatering and groundwater treatment; service saddle, connection to the water main, water service piping or tubing, corporation stop, curb stop, meter box, fittings, joint restraints and other materials, all nuts, bolts; locate wiring; flushing and disinfection, testing, restoration not included in other separate pay items in this section, and all incidental and related work required to complete the item. All water services will be bored under the road; no open cut will be allowed. Water meters will be provided by the City for installation by the Contractor.

**9. SEWAGE MANHOLE (VARIES BY SIZE, TYPE, AND DEPTH)**

Measurement for Sewage Manhole will be by the actual number of each (by size, type and depth) satisfactorily furnished and installed. The depth of the manhole will be measured vertically from the top of the manhole frame to the invert at the center of the manhole bottom.

Payment for Sewage Manhole will be made at the contract unit price per each for the item satisfactorily installed. Such payment shall include full compensation for all labor, materials, and equipment for the item of work complete, including all mobilization, pre-construction and progress video, construction photographs, coordination with existing utilities, protection of existing utilities including service connections, tree protection, clearing, grubbing, filling/leveling and stabilizing work areas, removal or relocation of items within the work area as noted on Construction Drawings including but not limited to signs, guardrails, fencing, etc.; excavation, sheeting, shoring and bracing, dewatering, groundwater treatment and disposal; sewer bypass pumping; pipe bedding, backfill, compaction, and grading; joining piping; concrete fill/bottom slab for saddle manholes; all testing, and clean-up. Payment shall include full compensation for manhole, manhole frames, covers, interior and exterior coating/lining systems, inside or outside drops, connections (including hole in manhole and boot or water stop), restoration not included in other separate pay items in this section, and all work appurtenant thereto, but exclusive of, stubouts.

**10. CORE DRILL AND CONNECT TO EXISTING MANHOLE (VARIES BY SIZE)**

Measurement for Core Drill and Connect to Existing Manhole will be by the actual number of each connection (by size) satisfactorily furnished and installed. Payment for Core Drill and Connect to Existing Manhole will be made at the contract unit price per each for the item satisfactorily installed. Such payment shall include full compensation for all labor, materials, and equipment for the item of work complete, including coordination with existing utilities, protection of existing utilities including service connections, tree protection, clearing, grubbing, filling/leveling and stabilizing work areas, excavation, sheeting, shoring and bracing, dewatering, groundwater treatment and disposal; sewer bypass pumping; pipe bedding, backfill, compaction, and grading; joining piping; coring manhole; fittings; grouting and repair to existing manhole wall section; repair to any existing manhole coating systems; all testing, restoration not included in other separate pay items in this section, and clean-up.

**11. CONNECTION TO EXISTING STUBOUT**

Measurement for Connection to Existing Stubout will be by the actual number of each connection satisfactorily furnished and installed. Payment for Connection to Existing Stubout will be made at the contract unit price per each for the item satisfactorily installed. Such payment shall include full compensation for all labor, materials, and equipment for the item of work complete, including coordination with existing utilities, protection of existing utilities including service connections, tree protection, clearing, grubbing, filling/leveling and stabilizing work areas, location of existing stubout, excavation, sheeting, shoring and bracing, dewatering, groundwater treatment and disposal; sewer bypass pumping; pipe bedding, backfill, compaction, and grading; joining piping; fittings; all testing, restoration not included in other separate pay items in this section, and clean-up.

**12. CLEANOUT ASSEMBLY (VARIES BY SIZE)**

Measurement for Cleanout Assembly will be by the number of each (by size) satisfactorily furnished and installed. Payment for Cleanout Assembly will be made at the contract unit price per each for the item satisfactorily installed. Such payment shall include full compensation for all labor, materials, and equipment for the item of work complete, including coordination with existing utilities, protection of existing utilities, excavation, backfill, compaction; dewatering and groundwater treatment; joining, fittings and accessories; all testing, restoration not included in other separate pay items in this section, and cleanup.

**13. GRAVITY SEWER PIPING (VARIES BY SIZE AND DEPTH)**

Measurement of Gravity Sewer Piping for payment will be by the horizontal distance between manholes with no deduction made for those spaces occupied by manholes, tees or other appurtenances (by size and depth). The depth of cut of sewers will be measured from existing grade elevations along the center line of the pipe, taken on fifty-foot stations, down to the sewer invert elevation. The depth of cut will be divided into steps: first step - 0 to 6 feet, second step - 6 to 8 feet, and so on, at 2-foot intervals, unless otherwise specified in the Contract Documents. Payment for Gravity Sewer Piping will be made at the contract unit price per linear foot for the size and class of pipe, type of material, and depth of sewer actually installed, measured as previously specified. Such payment shall constitute full compensation for all labor, materials, and equipment for the item of work complete including mobilization, pre-construction and progress video, construction photographs, coordination with existing utilities, protection of existing utilities including service connections, tree protection, clearing, grubbing, filling/leveling and stabilizing work areas, removal or relocation of items within the work area as noted on Construction Drawings including but not limited to signs, guardrails, fencing, etc., excavation, sheeting, shoring and bracing, dewatering, groundwater treatment and disposal, sewer bypass pumping, pipe bedding, backfill, compaction, and grading, joining piping, stoppers for all ends of pipe and fittings, and transition couplings; all testing; post-construction CCTV, restoration not included in other separate pay items in this section, and clean-up.

**14. SEWER SERVICE LATERALS**

Measurement of Sewer Service Laterals for payment will be made by the number of each sewer lateral satisfactorily furnished and installed and connected to the gravity sewer main as indicated on the Construction Drawings. Payment for Sewer Service Laterals will be made at the contract unit price per each for the item satisfactorily installed. Such payment shall include full compensation for all labor, materials, and equipment for the item of work complete, including fittings, service piping, couplings/adapters, coordination with existing utilities, protection of existing utilities, excavation, backfill, compaction; dewatering and groundwater treatment; sewer lateral piping, tee or saddle and other fittings and accessories; joining; all testing, restoration not included in other separate pay items in this section, and cleanup.

This pay item is for work within the right-of-way or easement.

**15. ON-SITE SEWER SERVICE REVERSAL AND ABANDON EXISTING SEWER SERVICE (VARIES BY LOCATION)**

Measurement for On-Site Sewer Service Reversal and Abandon Existing Sewer Service will be made by the number of each rerouted sewer lateral satisfactorily furnished and installed from the existing sewer service lateral at the house/property and connected to the sewer lateral at the right-of-way as indicated on the Construction Drawings and the abandonment of the existing remaining (unused) portion of sewer service lateral for the property. Abandonment shall include locating extents of existing on-site sewer service, severing the existing sewer service lateral at the connection to the existing sewer main, and capping all ends of pipe of the sewer service lateral and the sewer main connection. Payment will be made at the contract unit price per each for the item satisfactorily installed and completed. Such payment shall include full compensation for all labor, materials, and equipment for the item of work complete including coordination with existing utilities and structures, protection of existing utilities and structures, locating existing sewer service, bypass pumping, excavation, backfill, compaction; dewatering and groundwater treatment; sewer lateral piping, fittings, sleeves, couplings/adapters, and accessories, 4-inch cleanout assemblies for all lateral changes in direction, joining, all testing, cutting pipe, disposal of sewage, cleanup, and any permits necessary for work on private property. Payment shall be full compensation for restoring any damage caused by construction on private property including but not limited to fencing, utility services (water, electric, internet, cable, telephone, etc.), irrigation systems, landscaping, sod, gravel/rock, existing structures and buildings, sidewalk, driveways, patios, and pavers.

This pay item is for work on private property; work on private property must be performed by a licensed plumber.

**16. REMOVE EXISTING CLEANOUT ASSEMBLY**

Measurement for payment of Removal of Existing Cleanout Assemblies will be made by the number of each existing cleanout assembly satisfactorily removed. Payment will be made at the contract unit price for each cleanout assembly satisfactorily removed and shall be full compensation for all labor, materials, and equipment necessary for the proper removal and disposal of cleanout assembly including plugs or stoppers or sealing any and all pipes leading in and out of the structure; excavation; backfilling; compacting; native backfill and/or A-3 soil fill material for the void left by removing the structure; restoration not included in other separate pay items in this section; and cleanup.

**17. ABANDONING OF PIPING BY GROUT FILLING AND CAP (VARIES BY SIZE)**

Measurement for Abandoning of Piping by Grout Filling and Capping will be measured by the actual linear footage of pipe (by size) satisfactorily abandoned and accepted. Payment will be made at the contract unit price per linear foot which shall be full compensation for all labor, materials, and equipment necessary for the item of work complete, excavating as required; cutting pipe; grout; grout filling; backfilling and compacting; fittings and accessories; disposal of sewage; restoration not included in other separate pay items in this section; and cleanup.

**18. ABANDONING OF PIPING BY CAPPING (VARIES BY SIZE)**

Measurement for Abandoning of Piping by Capping will be measured by actual number of each cap (by size) satisfactorily furnished and installed. Payment will be made at the contract unit price per each cap for the item satisfactorily installed, and such payment shall include full compensation for all labor, materials, and equipment necessary for the item of work complete, excavating as required; cutting pipe; backfilling and compacting; fittings and accessories; disposal of sewage; restoration not included in other separate pay items in this section; and cleanup.

**19. TREE REMOVAL**

Measurement for Tree Removal will be measured for the complete and satisfactory removal of the Palm trees indicated for removal on the Construction Drawings. Payment of Tree Removal shall be made at the contract unit price which shall be full compensation for protecting existing structures, utilities and property both public and private; and furnishing all labor, materials, and equipment to remove and properly dispose of each tree and grind any remaining stump as identified on the Construction Drawings, restoration not included in other separate pay items in this section, and cleanup. Only the noted Palm trees are included in this item, any other tree removal or clearing operations in the project shall be included as part of the pay item to which it is related.

**20. REMOVE AND RESTORE SOD**

Measurement for Remove and Restore Sod will be based on the field measured square yard quantity accepted and installed in accordance with the Contract Documents. Payment of Remove and Restore Sod shall be made at the contract unit price per square yard which shall be full compensation for all labor, materials, and equipment necessary for removal and disposal of the existing grassing; furnishing, installing, fertilizing, and maintaining sod; and restoration not included in other separate pay items in this section. If a planted area must be replanted due to the Contractor's negligence, excessive amount of damage for type of construction, or failure to provide routine maintenance of the area, such replacement shall be at the Contractor's expense.

**21. REMOVE AND RESTORE GRAVEL/ROCK (6" THICKNESS)**

Measurement for Remove and Restore Gravel/Rock (6" Thickness) will be based on the field measured square yard quantity accepted and installed in accordance with the Contract Documents. Payment of Remove and Restore Gravel/Rock (6" Thickness) shall be made at the contract unit price per square yard which shall be full compensation for all labor, materials, and equipment necessary for removal and disposal

of existing gravel; furnishing and installing the gravel/rock, and restoration not included in other separate pay items in this section.

**22. REMOVE AND RESTORE CONCRETE CURB AND GUTTER**

Measurement for Remove and Restore Concrete Curb and Gutter will be based on the field measured linear feet quantity accepted and installed in accordance with Contract Documents. Payment of Remove and Restore Concrete Curb and Gutter shall be made at the contract unit price per linear foot which shall be full compensation for all labor, materials, and equipment necessary for the item of work complete including cutting and removal and disposal of existing curb and gutter, forming and vibrating (if required), concrete, joint materials, testing as required per specification, commercial grade fibermesh as specified in the Contract Documents, restoration not included in other separate pay items in this section, and cleanup.

**23. REMOVE AND RESTORE CONCRETE SIDEWALK AND RAMP**

Measurement for Remove and Restore Concrete Sidewalk and Ramp will be based on the field measured square yard quantity accepted and installed in accordance with the Contract Documents. Payment of Remove and Restore Concrete Sidewalk and Ramp shall be made at the contract unit price per square yard which shall be full compensation for all labor, materials, and equipment necessary for the item of work complete including cutting and removal and disposal of existing sidewalk, forming and vibrating (if required), concrete, joint materials, handicap ramp materials, testing as required per specification, commercial grade fibermesh as specified in the Contract Documents, restoration not included in other separate pay items in this section, and cleanup. No payment shall be made for sidewalk through concrete driveways.

**24. REMOVE AND RESTORE ASPHALT PAVEMENT**

Measurement for Remove and Restore Asphalt Pavement will be based on the field measured square yard quantity accepted and installed in accordance with the Contract Documents not to exceed the maximum trench width plus the added width of surfacing shown on the Drawings. Payment of Remove and Restore Asphalt Pavement shall be made at the contract unit price per square yard which shall be full compensation for all labor, materials, and equipment necessary for the asphalt roadway repair complete in accordance with City of Jacksonville Beach standards including cutting and removal and disposal of existing pavement; necessary subbase, base, temporary sand seal coat, and asphaltic concrete; compaction; testing; paint and thermoplastic striping and markings; and all other necessary incidental work; restoration not included in other separate pay items in this section; and cleanup.

**25. REMOVE AND RESTORE ASPHALT PAVEMENT, BASE AND SUBBASE**

Measurement for Remove and Restore Asphalt Pavement, Base and Subbase will be based on the field measured square yard quantity accepted and installed in accordance with the Contract Documents not to exceed the maximum trench width shown on the Drawings. Payment of Remove and Restore Asphalt Pavement, Base and Subbase shall be made at the contract unit price per square yard which shall be full compensation for all labor, materials, and equipment necessary for the base and subbase repair complete in accordance with City of Jacksonville Beach standards including cutting and removal and disposal of existing pavement; necessary subbase, base, and temporary sand seal coat; compaction; testing; and all other necessary incidental work; restoration not included in other separate pay items in this section; and cleanup.

This pay item is for use in areas where resurfacing will be completed under a separate pay item.

**26. MILLING AND RESURFACING**

Measurement for Milling and Resurfacing will be based on the field measured square yard quantity accepted and installed in accordance with the Contract Documents. Payment of Milling and Resurfacing shall be made at the contract unit price per square yard which shall be full compensation for all labor, materials, and equipment necessary for the milling and resurfacing complete in accordance with City of Jacksonville Beach standards including properly preparing and milling the area noted in the Contract Documents; placing new

asphaltic concrete mix (thickness as noted in Contract Documents); testing; paint and thermoplastic striping and markings; and all other necessary incidental work; restoration not included in other separate pay items in this section; and cleanup. Any additional asphaltic concrete mix necessary to properly surface construction areas where only base and subbase have been restored shall be included in this pay item.

**27. DISPOSAL AND REPLACEMENT (WITH A-3 SAND) OF UNSUITABLE SOILS**

Measurement for Disposal and Replacement (with A-3 sand) of Unsuitable Soils shall be measured in actual cubic yards of unsuitable soil material to be disposed of and replaced in accordance with the Contract Documents. Payment of Disposal and Replacement (with A-3 sand) of Unsuitable Soils shall be made at the contract unit price per cubic yard and shall be full compensation for all labor, materials, equipment, and transportation necessary to remove from the job site and dispose of all unsuitable material; furnish, place and compact suitable backfill as specified in the Contract Documents; and cleanup. The cost of excavation of unsuitable backfill and dewatering shall be included with the cost of the related piping or structure installation.

**END OF SECTION**

**SECTION 01065**  
**PERMITS**

**PART 1 - GENERAL**

- 1.1 The Contractor shall obtain and pay for all permits and licenses related to his work as provided for in Section 00700: General Conditions except as otherwise noted herein.
- 1.2 Permits to be acquired by Contractor:
- A. Dewatering Permit: If dewatering operations will be necessary, within fourteen (14) calendar days of issuance of Notice to Proceed, the Contractor shall submit a dewatering plan for construction. This plan will be used in support of the Contractor's application for a permit from St. Johns River Water Management District (SJRWMD) for said project and shall outline means of dewatering for construction, water control and disposal, water quality protection, the means and methods of construction for the project, restoration of the site, and other pertinent information that may be required by SJRWMD. Consult with SJRWMD and include their requirements for additional information in the dewatering plan.
  - B. As necessary for construction activities including discharge of non-contaminated groundwater, Contractor shall submit a Notice of Intent (NOI) to Florida Department of Environmental Protection (FDEP) for a Construction Generic Permit prior to initiating construction activities. A Stormwater Pollution Prevention Plan (SWPPP) must be developed and implemented to be in compliance with the permit. Contractor shall provide SWPPP and prepare Notice of Termination for the Construction Generic Permit.
  - C. Contractor shall apply for Right of Way Permitting from the City of Jacksonville Beach as necessary.
  - D. Contractor shall submit applications and secure any other permits necessary for construction.
- 1.3 Permits acquired by City: Refer to Table 01065A for additional information.
- A. FDEP Notice Of Intent To Use The General Permit For Construction Of Water Main Extensions For PWSs for the installation of 8-inch water main extension along 7th Avenue South from 1st Street South to east end of 7th Avenue South near the beach parking.
  - B. FDEP Notification/Application for Constructing A Domestic Wastewater Collection/Transmission System for installation of 8-inch gravity sewer extension along Shetter Avenue from existing manhole at 6th Street South east to 5th Street South.
  - C. FDEP Notification/Application for Constructing A Domestic Wastewater Collection/Transmission System for installation of 8-inch gravity sewer extension along 8th Avenue North from 1st Street North (existing manhole stubout) west to 2nd Street North
  - D. The City has not applied for any permits for the portion of the project located at Burrito Gallery/AT&T Store building and the Verizon building at the corner of Beach Boulevard and 3rd Street South and north of 1st Avenue South. This portion is exempt from permitting with the FDEP as the proposed work is considered maintenance type improvements.

**Table 01065A  
PERMIT INFORMATION**

The following permits have been obtained or are anticipated to be obtained by the City prior to construction:

<u>Permit</u>	<u>Permit No.</u>	<u>Issue Date</u>
FDEP Notice Of Intent To Use The General Permit For Construction Of Water Main Extensions For PWSs (7 <sup>th</sup> Avenue South Water Improvements)	0128730-179-DSGP	October 7, 2020
FDEP Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System (Shetter Avenue Sewer Improvements)	Pending	Pending
FDEP Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System (8th Avenue North Sewer Improvements)	Pending	Pending

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 01100**  
**SPECIAL PROJECT PROCEDURES**

**PART 1 - GENERAL**

**1.1 PUBLIC NUISANCE**

- A. The Contractor shall not create a public nuisance including, but not limited to, encroachment on adjacent lands, flooding of adjacent lands, or excessive noise.
- B. Sound levels measured by the Engineer or City's personnel shall not exceed 70 dBA 7:00 a.m. to 10:00 p.m. and 65 dBA from 10:00 p.m. to 7:00 a.m. This sound level shall be measured at the exterior of the nearest exterior wall of the nearest residence. Sound levels in excess of these values are sufficient cause to have the work halted until equipment can be quieted to these levels. Work stoppage by the Engineer or City for excessive noise shall not relieve the Contractor of the other portions of this specification including, but not limited to, completion dates and bid amounts.
- C. No extra charge may be made for time lost due to work stoppage resulting from the creation of a public nuisance.

**1.2 SUSPENSION OF WORK**

During inclement weather, all work, which might be damaged or rendered inferior by such weather conditions, shall be suspended. The orders and decisions of the Engineer as to suspensions shall be final and binding. During suspension of the work from any cause, the work shall be suitably covered and protected so as to preserve it from injury by the weather or otherwise; and, if the Engineer shall so direct, rubbish and surplus materials shall be removed.

**1.3 SPECIAL REQUIREMENTS**

The following requirements shall govern:

- A. No additional payment will be made for pumping or other difficulties encountered due to water.
- B. The Contractor shall, prior to interrupting a utility service (water, sewer, etc.) for the purpose of making cut-ins to the existing lines or for any other purposes, contact the City and make arrangements for the interruption, which will be satisfactory to the City.
- C. All equipment delivered to the job site shall be properly protected from dirt, dust, dampness, water and any other condition detrimental to the life of the equipment from the date of delivery to the time that control of the equipment is assumed by the City. If any equipment is delivered to the job site before any building thereon is enclosed, it shall be housed in a temporary, structurally rigid, watertight enclosure.
- D. From investigations, including surveys made at the site, it may be assumed that physical conditions are approximately as indicated on the Drawings, but the nature of the materials below the surface, or the depth to satisfactory foundations, are not guaranteed.
- E. Certain information regarding the reputed presence, size, character and location of existing underground structures, pipes and conduits have been shown on the Contract Drawings. There is no certainty of the accuracy of this information, and the location of underground structures shown may be inaccurate and other obstructions than those shown may be encountered. The Contractor hereby distinctly agrees that the City and Engineer are not responsible for the correctness or sufficiency of the information given; that in no event is this information to be considered as a part of the Contract; and that consideration for equitable compensation will be made for conditions materially different from those shown on the

Drawings, as determined by the City/Engineer.

#### **1.4 PUMPING**

- A. The Contractor, with his own equipment, shall do all pumping necessary to prevent floatation of any part of the structures during construction operations.
- B. The Contractor shall, for the duration of the contract and with his own equipment, pump out water, stormwater and wastewater, which may seep or leak into the structures. Operating areas shall be kept dry at all times. The extent of pumping required in non-operating areas will be determined by the Engineer.

#### **1.5 FLORIDA DEPARTMENT OF TRANSPORTATION RIGHTS-OF-WAY**

- A. The Contractor shall strictly adhere to the requirements of the Florida Department of Transportation where construction work is in a right-of-way under the jurisdiction of the State of Florida.
- B. The Contractor shall take care to avoid any unreasonable traffic conflicts due to the work in the road rights-of-way.

#### **PART 2 - PRODUCTS (NOT USED)**

#### **PART 3 - EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 01340**  
**SHOP DRAWINGS, WORKING DRAWINGS, AND SAMPLES**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

A. Scope of Work:

1. The Contractor shall submit to the Engineer for review and approval, such Working Drawings, Shop Drawings, Test Reports and Data on materials and equipment (hereinafter in this Section called Data), and material samples (hereinafter in this Section called Samples) as are required for the proper control of work, including but not limited to those Working Drawings, Shop Drawings, Data and Samples for materials and equipment specified elsewhere in the Specifications and in the Contract Drawings.
2. Within thirty (30) calendar days after the Effective Date of the Agreement, the Contractor shall submit to the Engineer a complete list of preliminary Data on items for which Shop Drawings are to be submitted. Included in this list shall be the names of all proposed manufacturers furnishing specified items. Review of this list by the Engineer shall in no way expressed or implied relieve the Contractor from submitting complete Shop Drawings and providing materials, equipment, etc., fully in accordance with the Specifications. This procedure is required in order to expedite final review of Shop Drawings.
3. The Contractor is to maintain an accurate updated submittal log and will bring this log to each scheduled progress meeting with the City and the Engineer. This log should include the following items:
  - a. Submittal-Description and Number assigned.
  - b. Date sent to Engineer.
  - c. Date returned to Contractor (from Engineer).
  - d. Status of Submittal (Approved, Approved as Noted, Revise and Resubmit, or Rejected).
  - e. Date of Re-submittal and Return (as applicable).
  - f. Date material release (for fabrication).
  - g. Projected date of fabrication.
  - h. Projected date of delivery to site.
  - i. Status of O&M manuals submittal.
  - j. Specification Section.
  - k. Drawings Sheet Number.

**1.2 CONTRACTOR'S RESPONSIBILITY**

- A. It is the duty of the Contractor to check all Drawings, Data and Samples prepared by or for him before submitting them to the Engineer for review. Each and every copy of the Drawings and Data shall bear the Contractor's stamp showing that they have been so checked. Shop Drawings submitted to the Engineer without the Contractor's stamp will be returned to the Contractor for conformance with this requirement. Shop Drawings shall indicate any deviations in the submittal from requirements of the Contract Documents. If the Contractor takes exception to the specifications, the Contractor shall note the exception in the letter of transmittal to the Engineer.
- B. Determine and verify:
  1. Field measurements.
  2. Field construction criteria.

3. Catalog numbers and similar data.
  4. Conformance with Specifications.
- C. The Contractor shall furnish the Engineer a schedule of Shop Drawings submittals fixing the respective dates for the submission of Shop and Working Drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment. This schedule shall indicate those that are critical to the progress schedule.
- D. The Contractor shall not begin any of the work covered by a Shop Drawing, Data, or a Sample returned for correction until a revision or correction thereof has been reviewed and returned to him, by the Engineer with approval.
- E. The Contractor shall submit to the Engineer all drawings and schedules sufficiently in advance of construction requirements to provide no less than thirty (30) calendar days for checking and appropriate action from the time the Engineer receives them.
- F. All submittals shall be accompanied with a transmittal letter prepared in duplicate containing the following information:
1. Date.
  2. Project Title and Number.
  3. Contractor's name, address, phone and fax numbers.
  4. The number of each Shop Drawing, Project Data, and Sample submitted.
  5. Notification of Deviations from Contract Documents.
  6. Submittal Log Number conforming to Specification Log Number.
- G. The Contractor shall submit four (4) copies of descriptive or product Data submittals to complement Shop Drawings for the Engineer plus the number of copies which the Contractor requires returned. The Engineer will retain four (4) sets. All plot Shop Drawings shall be submitted with one (1) PDF file and four (4) sets of prints. The Engineer will review the plots and return to the Contractor the set of marked-up plots with appropriate review comments.
- H. The Contractor shall be responsible for and bear all costs of damages, which may result from the ordering of any material or from proceeding with any part of work prior to the completion of the review by the Engineer of the necessary Shop Drawings.
- I. The Contractor shall be fully responsible for observing the need for and making any changes in the arrangement of piping, connections, wiring, manner of installation, etc., which may be required by the materials/equipment he proposed to supply both as pertains to his own work and any work affected under other parts, headings, or divisions of Drawings and Specifications.

### **1.3 ENGINEER'S REVIEW OF SHOP DRAWINGS**

- A. The Engineer's review of Shop Drawings, Data and Samples submitted by the Contractor will cover only general conformity to the Specifications, external connections, and dimensions which affect the installation. The Engineer's review and exceptions, if any, will not constitute an approval of dimensions, quantities, and details of the material, equipment, device, or item shown.
- B. The review of drawings and schedules will be general, and shall not be construed:
1. As permitting any departure from the Contract requirements.
  2. As relieving the Contractor of responsibility for any errors, including details, dimensions, and materials.
  3. As approving departures from details furnished by the Engineer, except as otherwise provided herein.

If the drawings or schedules as submitted describe variations per Paragraph 1.2A. herein, and show a departure from the Contract requirements which the Engineer finds to be in the interest of the City and to be so minor as not to involve a change in Contract Price or time for performance, the Engineer may return the reviewed drawings without noting an exception.

- C. When reviewed by the Engineer, each of the Shop Drawings will be identified as having received such review being so stamped and dated. Shop Drawings stamped "REVISE AND RESUBMIT" and with required corrections shown will be returned to the Contractor for correction and re-submittal. Shop Drawings stamped "REJECTED" deviated so significantly from the Contract requirements that Contractor shall review Contract requirements and completely update submittal package and re-submit.
- D. Re-submittals will be handled in the same manner as first submittals. On re-submittals the Contractor shall direct specific attention, in writing or on re-submittal Shop Drawings, to revisions other than the corrections requested by the Engineer on previous submissions. The Contractor shall make any corrections required by the Engineer.
- E. If the Contractor considers any correction indicated on the drawings to constitute a change to the Contract Drawings or Specifications, the Contractor shall give written notice thereof to the Engineer.
- F. Shop Drawings and submittal Data shall be reviewed by the Engineer for each original submittal and first and second re-submittal; thereafter review time for subsequent re-submittals shall be charged to the Contractor in accordance with the terms of the Engineer's Agreement with the City.
- G. When the Shop Drawings have been completed to the satisfaction of the Engineer, the Contractor shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the Engineer.
- H. No partial submittals will be reviewed. Submittals which are not complete will be returned to the Contractor for re-submittal. Unless otherwise specifically permitted by the Engineer, make all submittals in groups containing all associated items for:
  - 1. Systems.
  - 2. Processes.
  - 3. As indicated in specific Specifications Sections.

All drawings, schematics, manufacturer's product Data, certifications and other Shop Drawing submittals required by a system specification shall be submitted at one time as a package to facilitate interface checking.

#### **1.4 SHOP DRAWINGS**

- A. When used in the Contract Documents, the term "Shop Drawings" shall be considered to mean Contractor's plans for materials and equipment, which become an integral part of the project. These drawings shall be complete and detailed. Shop Drawings shall consist of fabrication, erection and setting drawings and schedule drawings, manufacturer's scale drawings, and wiring and control diagrams. Cuts, catalogs, pamphlets, descriptive literature, and performance and test data shall be considered only as supportive to required Shop Drawings as defined above. As used herein, the term "manufactured" applies to standard units usually mass-produced; and "fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements.
- B. Manufacturer's catalog sheets, brochures, diagrams, illustrations and other standard descriptive data shall be clearly marked to identify pertinent materials, product or models. Delete information, which is not applicable to the Work by striking or cross-hatching.
- C. Drawings and schedules shall be checked and coordinated with the work of all trades involved, before

they are submitted for review by the Engineer and shall bear the Contractor's stamp of approval as evidence of such checking and coordination. Drawings or schedules submitted without this stamp of approval shall be returned to the Contractor for resubmission.

- D. Each Shop Drawing shall have a blank area 3-1/2 inches by 3-1/2 inches, located adjacent to the title block. The title block shall display the following:
  - 1. Project Title and Number.
  - 2. Name of project building or structure.
  - 3. Number and title of the Shop Drawing.
  - 4. Date of Shop Drawing or revision.
  - 5. Name of Contractor and Sub-Contractor submitting drawing.
  - 6. Supplier/manufacturer.
  - 7. Separate detailer when pertinent.
  - 8. Specification title and number.
  - 9. Specification section.
  - 10. Application Contract Drawing Number.
- E. If Shop Drawings show variations from Contract requirements because of standard shop practice or for other reasons, the Contractor shall describe such variations in his letter of transmittal. If acceptable, proper adjustment in the Contract shall be implemented where appropriate. If the Contractor fails to describe such variations, he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such drawings have been reviewed.
- F. Data on materials and equipment include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, materials of construction and similar descriptive material. Materials and equipment lists shall give, for each item thereon, the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish and all other pertinent data.
- G. For all mechanical and electrical equipment furnished, the Contractor shall provide a list including the equipment name, and address and telephone number of the manufacturer's representative and service company so that service and/or spare parts can be readily obtained.
- H. Only the Engineer will utilize the color "red" in marking Shop Drawing submittals.

## 1.5 WORKING DRAWINGS

- A. When used in the Contract Documents, the term "Working Drawings" shall be considered to mean the Contractor's plan for temporary structures such as temporary bulkheads, support of open cut excavation, support of utilities, ground water control systems, forming and falsework; for underpinning; and for such other work as may be required for construction but does not become an integral part of the Project.
- B. Copies of Working Drawings as noted in Paragraph 1.5A. above, shall be submitted to the Engineer where required by the Contract Documents or requested by the Engineer, and shall be submitted at least thirty (30) calendar days (unless otherwise specified by the Engineer) in advance of their being required for work.
- C. Working Drawings shall be signed by a registered Professional Engineer, currently licensed to practice in the State of Florida and shall convey, or be accompanied by, calculation or other sufficient information to completely explain the structure, machine, or system described and its intended manner of use. Prior to commencing such work, Working Drawings must have been reviewed without specific exceptions by the Engineer, which review will be for general conformance and will not relieve the Contractor in any way from his responsibility with regard to the fulfillment of the terms of the Contract. All risks of error are assumed by the Contractor; the City and Engineer shall have no responsibility therefore.

## **1.6 SAMPLES**

- A. The Contractor shall furnish, for the approval of the Engineer, Samples required by the Contract Documents or requested by the Engineer. Samples shall be delivered to the Engineer as specified or directed. The Contractor shall prepay all shipping charges on Samples. Materials or equipment for which Samples are required shall not be used in work until approved by the Engineer.
- B. Samples shall be of sufficient size and quantity to clearly illustrate:
  - 1. Functional characteristics of the product, with integrally related parts and attachment devices.
  - 2. Full range of color, texture and pattern.
  - 3. A minimum of two (2) Samples of each item shall be submitted.
- C. Each Sample shall have a label indicating:
  - 1. Name of Project.
  - 2. Name of Contractor and Sub-Contractor.
  - 3. Material or Equipment Represented.
  - 4. Place of Origin.
  - 5. Name of Producer and Brand (if any).
  - 6. Location in Project.

(Samples of finished materials shall have additional marking that will identify them under the finished schedules.)
- D. The Contractor shall prepare a transmittal letter in triplicate for each shipment of Samples containing the information required in paragraphs 1.6 B and C above. He shall enclose a copy of this letter with the shipment and send a copy of this letter to the Engineer. Approval of a Sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify any Contract requirements.
- E. Approved Samples not destroyed in testing shall be sent to the Engineer or stored at the site of the work. Approved Samples of the hardware in good condition will be marked for identification and may be used in the work. Materials and equipment incorporated in work shall match the approved Samples. Samples, which failed testing or were not approved, will be returned to the Contractor at his expense, and if so requested at time of submission.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 01381  
CONSTRUCTION AUDIO-VIDEO RECORDING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION OF WORK:**

Progress video tapes shall be made at periodic intervals, not to exceed 30 days, showing the extent and progress of the work performed as of that date. Video tapes shall be taken at each location of work on the day ending the period for which partial payment is requested, during the development of stages and condition of work, and as directed by the Engineer. Typical pipeline work shall be videotaped at different stages of construction at the direction of the Engineer.

- A. Initial video tape inspection of existing conditions shall be taken no later than 14 calendar days after notice to proceed and prior to beginning of any construction.
- B. At each specified time, take video tapes of each major area of work.
- C. Final video tapes shall be submitted and approved by the Engineer/City prior to final acceptance and payment.

**1.2 QUALITY ASSURANCE**

- A. Video Camera Operator: The operator may be an employee of the Contractor and must be completely familiar with the proper operation of the video recording device (digital camera) and how to create a DVD. Employ operator only after review of his qualifications by Engineer.

**1.3 SUBMITTALS**

- A. Submit qualifications and experience record of operator.
- B. DVDs shall be submitted to the Engineer at the time of each payment request and shall become the property of the City.

**PART 2- PRODUCTS**

**2.1 VIDEO REPORT**

- A. Provide a high quality DVD in a MPEG2 format video with a standard resolution of 720x480. Use a camera with lighting suitable to allow a clear picture of the entire project site.

**2.2 DIGITAL FILE**

- A. Recording can also be completed, stored and submitted as a digital file in Microsoft, Windows, Quicktime, Flash or other formats with file extensions such as AVI, MOV, WMV, etc.

**2.3 DIGITAL CAMERA**

- A. The video camcorder shall have a minimum resolution of 18.20 megapixels, sensor size 1/2.3-inch with an optical zoom; criteria based off Sony CyberShot DSC Wx500 but any approved equal is acceptable.
- B. At the end of the project all DVDs with index based on elapsed time of tape shall become the property of the City.

## **PART 3 - EXECUTION**

### **3.1 GENERAL**

- A. The following location information shall be provided on color audio-video tape recording.
  - 1. Audio: Each recording shall begin with a verbal description of the current date, project name and municipality and be followed by the general location, name of the street, viewing side and direction of progress.
  - 2. Video: Transparent information must appear on the viewing screen. This information will consist of the date and time of recording. The date information will contain the month, day and year.
  - 3. Digital: To preclude the possibility of tampering or editing in any manner, all video recordings by electronic means must display continuously and simultaneously generated transparent digital information to include the date and time of recording. The date information will include the month, day and year.
- B. The taped coverage shall include all surface features located within the zone of influence of construction supported by appropriate audio description. Audio description shall be made simultaneously with video coverage. Such coverage shall include, but not be limited to, all existing driveways, sidewalks, fences, curbs, ditches, roadways, landscaping, trees, culverts, headwalls, retaining walls, or buildings located within such zone of influence. Particular and detailed attention shall be given to any defects noted, such as cracks, disturbed areas, damaged items, or as may be required by the Engineer. It is the intent of this coverage to accurately and clearly document pre-existing conditions and especially any items that could result in construction claims. The excavation areas shall be physically marked with high visibility fluorescent paint prior to videotaping. The markings shall include the job number and stationing.
- C. The zone of influence shall be defined as an area within 30 feet of the proposed work.
- D. The Contractor shall be able to televise and tape areas with paved roads, along co-owned easements through parks, lawns, and open fields. If videotaping on private property, the Contractor shall give the City sufficient prior notice of such entry so that Owners may be advised of and their permission obtained for the work.
- E. To produce the proper detail and perspective, adequate lighting will be required to fill in the shadow area caused by trees, utility poles, road signs and other such objects in residential areas or as directed by the Engineer.
- F. Houses and buildings shall be identified visually by house number, when visible, in such a manner that structures of the proposed system, manholes on a sewer system and hydrants on a water system can be located by reference.
- G. The rate of speed in the general direction of travel of the conveyance used during taping shall not exceed 48 feet per minute in residential areas, nor exceed 100 feet per minute in non-residential areas. Panning rates and zoom-in, zoom-out rates shall be controlled sufficiently such that during playback will produce clarity of the object viewed. The playback picture shall be in focus and be of extreme clarity at all times.
- H. All taping shall be done during times of good visibility. No taping shall be done during periods of visible precipitation unless otherwise authorized by the Engineer.
- I. The City shall have the authority to designate what areas may be omitted or added for audio-video coverage.
- J. All DVDs shall be properly identified by DVD number, location and project name and municipality in a manner acceptable to the City.

- K. A record of the contents of each DVD shall be supplied by an index sheet identifying each segment in the recording by location, i.e., street or road viewing, elapsed time of video (no counter numbers), viewing side, point starting from, traveling direction and ending destination point.
- L. Any portion of the recording not conforming to specifications shall be rejected.
- M. Any recording not acceptable to the City shall be re-filmed at no additional charge. The Contractor shall reschedule unacceptable coverage within five (5) days after being notified.
- N. All recordings shall be performed by Contractor and reviewed and accepted prior to construction.
- O. One (1) original and one (1) copy are to be provided. Original to City and copy to Engineer.

### **3.2 PROGRESS CONSTRUCTION VIDEO**

- A. Submit DVDs on a monthly basis to accompany each request for progress payment to the City and Engineer.

**END OF SECTION**

**SECTION 01500**  
**TEMPORARY FACILITIES**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Scope of Work: Provide temporary facilities required which may include but are not necessarily limited to the following:
  - 1. By Contractor:
    - a. Telephone
    - b. Temporary water service.
    - c. Temporary sanitary facilities.
    - d. Temporary electrical service.

**1.2 TEMPORARY WATER**

- A. Furnish and Install Temporary Water Service for use throughout construction period.
  - 1. Water for construction purposes.
  - 2. Water for other purposes.
    - a. Testing.
    - b. Temporary sanitary facilities.
    - c. Cleaning.
- B. Maintain adequate volume of water for all purposes.
- C. Water source:
  - 1. Potable water may be obtained from the City of Jacksonville Beach water distribution system. Potable water used shall be separately metered and protected with approved back flow prevention devices. Potable water used will be billed to the Contractor at the rate established by the City.
- D. Maintain strict supervision of use of temporary services.
  - 1. Enforce conformance with applicable codes and standards.
  - 2. Enforce sanitary practices.
  - 3. Prevent waste of water.
  - 4. Prevent the abuse of services.
- E. Costs of installation and operation: Pay costs for water used by all trades, including costs of installation, maintenance, and removal of pipe and equipment.
- F. Requirements of regulatory agencies:
  - 1. Obtain, pay for permits, fees, deposits required by governing authorities.
  - 2. Comply with federal, state and local codes.

### 1.3 TEMPORARY ELECTRICITY

- A. Furnish and install Temporary Electric Power Service for construction needs throughout construction period.
  - 1. Power centers for miscellaneous tools and equipment used in construction work.
    - a. Locate so that power is available at any desired point with no more than 100 feet extension.
    - b. Provide weatherproof distribution box with grounded outlets.
    - c. Provide circuit breaker protection for all outlets.
    - d. Provide equipment grounding continuity for entire system.
    - e. Users shall provide grounded, Underwriters Laboratories, Inc. (UL) approved extension cords from power center to point of operations.
  - 2. Power for construction equipment.
    - a. Power for testing and checking equipment.
    - b. Power for welding units and for other equipment having special power requirements.
- B. Capacity:
  - 1. Adequate electrical service for construction use by all trades during construction period.
  - 2. Notify power company if unusually heavy loads such as welding, and other special power requirements, will be connected.
    - a. Provide special circuits for heavy load requirements.
    - b. Do not overload any circuit.
- C. Power Source:
  - 1. Supplier: City of Jacksonville Beach.
  - 2. Provide power of correct voltage, phase and frequency, as required, to project site.
- D. Maintain strict supervision of use of temporary services.
  - 1. Enforce conformance with applicable standards.
  - 2. Enforce safe practices.
  - 3. Prevent abuse of services.
- E. Costs of installation and operation: Pay costs of temporary electrical power used, including costs of installation, meter, maintenance, and removal of temporary services from point of connection.
- F. Requirements of regulatory agencies:
  - 1. Obtain and pay for permits as required by governing authorities.
  - 2. Comply with applicable codes.
    - a. National Electrical Code.
    - b. National Electrical Safety Code.
    - c. National Fire Protection Association.
    - d. Federal, state and local codes and utility company regulations.

#### **1.4 TEMPORARY SANITARY FACILITIES**

- A. Provide temporary sanitary facilities at the job site. The location of the temporary facilities shall be agreeable to the City of Jacksonville Beach and shall not create a public nuisance.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS**

- A. General:
  - 1. Materials may be new or used, but must be adequate for purpose required, sanitary and must not violate requirements of applicable codes.

#### **2.2 ELECTRICITY**

- A. Provide required facilities, including transformers, conductors, poles, conduits, raceways, breakers, fuses and switches.
- B. Provide appropriate enclosures for environment in which used, in compliance with NEMA standards.

#### **2.3 TEMPORARY SANITARY FACILITIES**

- A. Toilet facilities
  - 1. Portable chemical toilets.
  - 2. Toilet tissue: Provide at each toilet, on suitable dispenser.

### **PART 3 - EXECUTION**

#### **3.1 GENERAL**

- A. Install work in a neat and orderly manner.
- B. Make structurally sound throughout.
- C. Maintain to provide continuous service.
- D. Modify and extend service as work progress requires.

#### **3.2 TEMPORARY WATER**

- A. Locate piping and outlets.
  - 1. Provide service convenient to work stations.
  - 2. Avoid interference with:
    - a. Traffic and work areas.
    - b. Materials handling equipment.
    - c. Storage areas.

- B. Do not run piping on floor or on ground.
- C. When necessary to maintain pressure, provide temporary pumps, tanks, and compressors.

### **3.3 TEMPORARY ELECTRICITY**

- A. Service and distribution may be overhead or underground.
- B. Locate to avoid interference with:
  - 1. Traffic and work areas.
  - 2. Cranes.
  - 3. Material handling equipment.
  - 4. Storage areas.
- C. Do not run branch circuits on floor or on ground.
- D. Wire all safety devices specified for final operation of equipment.
- E. Check operation of safety devices.

### **3.4 TEMPORARY SANITARY FACILITIES**

- A. Portable toilets:
  - 1. Erect securely, and anchor to prevent dislocation.
  - 2. Service as often as necessary to prevent accumulation of wastes, and creation of unsanitary conditions.
- B. Washing facilities: Provide faucet and drain facilities.

### **3.5 REMOVAL**

- A. Completely remove temporary materials and equipment upon completion of construction.
- B. Clean and repair damage caused by installation and restore to specified or original condition.

### **3.6 TEMPORARY PROJECT OFFICE AND STORAGE AREA SITE**

- A. Contractor shall receive approval from City for any proposed location of temporary lay down yard and/or temporary job site trailer.

**END OF SECTION**

**SECTION 01568**  
**TEMPORARY EROSION AND SEDIMENTATION CONTROL**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Scope of Work:
1. The Work specified in this Section consists of designing, providing, maintaining and removing temporary erosion and sedimentation controls as indicated on Drawings and as necessary for compliance with local, state and federal regulations.
  2. Temporary erosion controls include, but are not limited to, grassing, mulching, setting, watering and reseeding on-site surfaces and soil and borrow area surfaces and providing interceptor ditches at ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits as established by the applicable regulations.
  3. Temporary sedimentation controls include, but are not limited to; silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the City.
  4. Contractor is responsible for providing effective temporary erosion and sediment control measures during construction or until final controls become effective.
- B. Related Work Described Elsewhere: Solid Sodding: Section 02934.
- C. Reference Standards
- FDOT Standard Specifications for Road and Bridge Construction (latest edition): Section 104  
Prevention, Control and Abatement of Erosion and Water Pollution

**PART 2 - PRODUCTS**

**2.1 EROSION CONTROL**

- A. Silt Fencing and netting shall be fabricated of material acceptable to the City.

**2.2 SEDIMENTATION CONTROL**

- A. Bales shall be clean, synthetic type.
- B. Silt Fencing and netting shall be fabricated of material acceptable to the City.
- C. Filter stone shall be crushed stone which conforms to Florida Department of Transportation (FDOT) specifications.
- D. Concrete block shall be hollow, non-load bearing type.
- E. Concrete - exterior grade not less than one inch thick.

## **PART 3 - EXECUTION**

### **3.1 EROSION CONTROL**

- A. Minimum procedures for grassing are:
1. Scarify slopes to a depth of not less than 6 inches and remove large clods, rock, stumps, roots larger than 1/2 inch in diameter and debris.
  2. Sow seed within 24 hours after the ground is scarified with either mechanical seed drills or rotary hand seeders.
  3. Apply mulch loosely and to a thickness of between 3/4 inch and 1-1/2 inches.
  4. Apply netting over mulched areas on sloped surfaces.
  5. Roll and water seeded areas in a manner, which will encourage sprouting of seeds and growing of grass. Reseed areas, which exhibit unsatisfactory growth. Backfill and seed eroded areas.

### **3.2 SEDIMENTATION CONTROL**

Install and maintain silt fences and dams, traps, barriers, and appurtenances as shown on the approved descriptions and working drawings. Synthetic bales which deteriorate and filter stone which is dislodged shall be replaced.

### **3.3 PERFORMANCE**

- A. Contractor shall inspect temporary erosion and sedimentation controls following all rain events. Any controls which have failed or are in need of repair or replacement shall be corrected immediately.
- B. Should any of the temporary erosion and sediment control measures employed by the Contractor fail to produce results which comply with the requirements of the State of Florida, the City or Engineer, Contractor shall immediately take whatever steps are necessary to correct the deficiency at his own expense.

**END OF SECTION**

## **SECTION 01710 CLEANING**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

- A. Scope of Work:
  - 1. Execute cleaning, during progress of the Work and at completion of the Work as required by Section 00700: General Conditions.
- B. Related Requirements Described Elsewhere:
  - 1. Conditions of the Contract.
  - 2. Each Specification Section: Cleaning for specific Products or Work.
- C. Reference Standards  

FDOT Standard Specifications for Road and Bridge Construction (latest edition): Section 4-6 Final Cleaning Up of Right-Of-Way.

#### **1.2 DISPOSAL REQUIREMENTS**

- A. Conduct cleaning and disposal operations to comply with all local, state, and federal codes, ordinances, regulations, and anti-pollution laws.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS**

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

### **PART 3 - EXECUTION**

#### **3.1 DURING CONSTRUCTION**

- A. Execute daily cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations or personal activities.
- B. Provide on-site containers for the collection of waste materials, debris and rubbish.
- C. Remove waste materials, debris and rubbish from the site as needed and dispose of at legal disposal areas away from the site.

### **3.2 DUST CONTROL**

- A. Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until paint is finished.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

### **3.3 FINAL CLEANING**

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Prior to final completion, or City occupancy, Contractor shall conduct an inspection of sight- exposed interior and exterior surfaces and all work areas to verify that the entire Work is clean.

**END OF SECTION**

**SECTION 01720**  
**PROJECT RECORD DRAWINGS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Scope of Work: Maintain at the site for the City one (1) record copy of:
  - 1. Drawings.
  - 2. Specifications.
  - 3. Addenda.
  - 4. Change Orders and other modifications of the Contract.
  - 5. Engineer's Field Orders or written instructions.
  - 6. Approved Shop Drawings, Working Drawings and Samples.
  - 7. Field Test Records.
  - 8. Construction photographs.
- B. Related Requirements Described Elsewhere:
  - 1. Shop Drawings, Working Drawings and Samples: Section 01340.

**1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES**

- A. Store documents and samples in Contractor's field office apart from documents used for construction.
- B. Provide files and racks for storage of documents.
- C. Provide locked cabinet or secure storage space for storage of samples.
- D. File documents and samples in accordance with CSI format with section numbers as provided herein.
- E. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.
- F. Make documents and samples available at all times for inspection by the Engineer or City's Representative.
- G. As a prerequisite for progress payments, the Contractor is to exhibit the currently updated "Record Documents" for review by the Engineer and City.

**1.3 MARKING DEVICES**

Provide felt tip marking pens for recording information in the color code designated by the Engineer.

## 1.4 RECORDING

- A. Label each document "PROJECT RECORD" in neat large printed letters.
- B. Record information concurrently with construction progress. Do not conceal any work until required information is recorded.
- C. Drawings: Legibly mark to record actual construction.
- D. All underground piping with elevations and dimensions.
  - 1. Changes to piping location.
  - 2. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 3. Actual installed pipe material, class, etc.
- E. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
- F. Field changes of dimension and detail.
- G. Changes made by Change Order.
- H. Details not on original Contract Drawings.
- I. Equipment and piping relocations.
- J. Specifications and Addenda: Legibly mark each section to record.
- K. Manufacturer, trade name, catalog number of Supplier of each product and item of equipment actually installed.
- L. Changes made by Change Order.
- M. Shop Drawings (after final review and approval): Provide five (5) sets of record drawings for each process equipment, piping, electrical system and instrumentation system.

## 1.5 SUBMITTAL

- A. At Contract closeout, after review by the Engineer and the City staff, the Contractor shall deliver Record Documents to the Engineer for the City, including the following:
  - 1. The record as-built drawings shall be submitted to the Engineer on Auto-CAD, Release 2016 or latest version used by City, two (2) CD's with signed and sealed digital pdf copies, and two (2) signed and sealed original full size (24"x36") paper copies.
  - 2. Accompany submittal with transmittal letter in duplicate, containing:
    - a. Date.
    - b. Project title and number.
    - c. Contractor's name and address.
    - d. Title and number of each Record Document.

- e. Signature of Contractor or his authorized representative.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION (NOT USED)**

**END OF SECTION**

**SECTION 02105  
RIGHT-OF-WAY CLEARING**

**PART 1 – GENERAL**

**1.1 DESCRIPTION**

A. Scope of Work:

This section describes the work included in clearing the roadway rights-of-way for construction operations.

B. Related Work Specified Elsewhere:

1. General Conditions: Section 00700.
2. Excavating, Backfilling, and Compacting: Section 02200.

C. Clearing Within Existing Rights-Of-Way:

Adhere to requirements of agency issuing permits for construction within its right-of-way.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION**

**3.1 GENERAL**

- A. Clearing: Remove and dispose of trees, snags, stumps, shrubs, brush, limbs, and other vegetative growth within the right-of-way and easement areas as required for trenching and installation of pipe. Remove all evidence of their presence from the surface (to a depth of twelve (12) inches below the surface) including sticks and branches. Remove and dispose of trash piles and rubbish. Protect trees, shrubs, and vegetative growth and fencing, which, are not required to be removed. The Contractor will be responsible to obtain any clearing permits required by all local laws, codes, and ordinances and comply with any tree mitigation requirements pertaining to the clearing permit.
- B. Trees and Shrubbery: Inspect the rights-of-way as to the nature, location, size, and extent of vegetative material to be removed or preserved, as specified herein. Preserve in place trees that are specifically shown on the Drawings and specified herein to be preserved.
- C. Preservation of Trees, Shrubs, and Other Plant Material:
1. All plant materials (trees, shrubbery, and plants) beyond the easement and right-of-way limits shall be saved and protected from damage resulting from the work. No filling, excavating, trenching, or stockpiling of materials will be permitted within the drip lines of these plant materials. The drip line is defined as a circle drawn by extending a line vertically to the ground from the outermost branches of a plant or group of plants. To prevent soil compaction within the drip line area, no equipment will be permitted within this area.
  2. Cut and remove tree branches where such cutting is necessary for construction operations. Remove branches, other than those required for construction operations, to provide a balanced appearance of any tree. Scars resulting from the removal of branches shall be treated with a tree sealant.

- D. Disposal of Clearing Debris: Do not burn combustible materials. Remove all cleared material from the worksite and dispose of in accordance with all local laws, codes, and ordinances.

**END OF SECTION**

**SECTION 02110  
DEMOLITION (CLEARING, GRUBBING AND STRIPPING)**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Scope of Work: This section describes the work included in clearing, grubbing, stripping, and otherwise preparing the project site for construction operations.
- B. Clearing: Remove and dispose of concrete and asphalt roadway materials, sidewalk pavers, roadway pavers, concrete curb, gutter, sidewalk, driveways, signage, fencing, storm sewers, inlets, utility boxes, bollards, shrubs, brush, limbs, and other vegetative growth as necessary for indicated construction improvements. Remove all evidence of their presence from the surface including broken or loose particles, sticks and branches. Remove and dispose of trash piles and rubbish that collects during construction. Protect trees, shrubs, vegetative growth, and fencing, which are not designated for removal. Clearing operations shall be conducted so as to prevent damage to existing structures and installations, and to those under construction, so as to provide for safety of employees and others.
- C. Grubbing: Grubbing shall consist of the complete removal of all stumps, roots larger than 1-1/2 inches in diameter, matted roots, brush, timber, logs, and any other organic or metallic debris remaining after clearing which is not suitable for construction purposes, resting on, under or protruding through the surface of the ground to a depth of 18 inches below the subgrade. All depressions excavated below the original ground surface for or by the removal of such objects, shall be refilled with suitable materials and compacted to a density conforming to the surrounding ground surface.
- D. Stripping: Remove and dispose of all organics and sod, topsoil, grass, grass roots, and other objectionable material remaining after clearing and grubbing from the areas designated or required to be stripped for construction activities. Grass and grass roots in areas to be excavated or filled upon shall be stripped off to a depth of 4 inches. In areas so designated, topsoil shall be stockpiled. Topsoil so stockpiled shall be protected until it is placed as specified. Any topsoil remaining after all work is in place shall be disposed of by the Contractor unless directed otherwise by the Engineer.

**PART 2 – PRODUCTS (NOT USED)**

**PART 3 – EXECUTION**

**3.1 GENERAL**

- A. Trees and Shrubbery: Existing trees, shrubbery, and other vegetative material may not be shown on the Drawings. Inspect the site as to the nature, location, size, and extent of vegetative material to be removed or preserved, as specified herein. Preserve, in place, trees that are specifically shown on the drawings or are not designated to be removed.
- B. Preservation of Trees, Shrubs, and Other Plant Material:
  - 1. All plant materials (trees, shrubbery, and plants) beyond the limits of clearing and grubbing shall be saved and protected from damage resulting from the work. No filling, excavating, trenching, or stockpiling of materials will be permitted within the drip line of these plant materials. The drip line is defined as a circle drawn by extending a line vertically to the ground from the outermost branches of a plant or group of plants. To prevent soil compaction within the drip line area no equipment will be permitted within this area.

2. When trees are close together, restrict entry to area with drip line by fencing. In areas where no fence is erected, the trunks of all trees 2 inches or greater in diameter shall be protected by encircling the trunk entirely with boards held securely by 12-gauge wire and staples. This protection shall extend from ground level to a height of 6 feet. Cut and remove tree branches where such cutting is necessary to affect construction operation. Remove branches other than those required to affect the work to provide a balanced appearance of any tree. Scars resulting from the removal of branches shall be treated with a tree sealant.
- C. Clearing and Grubbing Limits: All materials described above are to be completely removed and disposed of by the Contractor from construction site and right of way to allow for new construction.
  - D. Disposal of Clearing and Grubbing Debris: Do not burn combustible materials. Remove all cleared and grubbed material from the work site and dispose of in accordance with all local laws, codes, and ordinances.
  - E. Areas to be Stripped: All excavation and embankment areas associated with new structures shall be stripped. Stockpile areas shall be stripped.
  - F. Disposal of Strippings: Remove all stripped material and dispose off-site, unless otherwise directed to stockpile material.

**END OF SECTION**

**SECTION 02111**  
**DEMOLITION AND ABANDONMENT (BUILDING, MECHANICAL, PIPELINE, ETC.)**

**PART 1 - GENERAL**

**1.1 SCOPE OF WORK**

- A. The CONTRACTOR shall furnish all materials, labor, supervision, and equipment required for the orderly demolition, abandonment, removal, and/or salvaging of existing buildings, structures, piping, valves, fittings, appurtenances, and other equipment, as shown on the drawings and described herein. All references to industry standards (AWWA, ASTM, etc.) shall be to latest version unless otherwise noted.

**1.2 GENERAL REQUIREMENTS**

Structures, equipment, piping and other improvements to be demolished or removed shall be as detailed on the Drawings. Demolition shall be accomplished in a neat and careful manner so as not to damage adjacent structures, or unnecessarily interfere with existing operations. Fill shall be provided to match existing grades, unless otherwise noted on Drawings, and the area spot sodded and grassed or replacement pavement provided as specified in these specifications.

**PART 2 - PRODUCTS**

**2.1 ABANDONMENT**

A. Pipelines

1. Abandonment by Plugging

When called for on the Drawings, abandoned mains shall be plugged with a plugged fitting at points specified. All plugs shall be appropriately sized and shall conform to the piping being plugged.

2. Abandonment by Grout Filling

When called for on the Drawings, the abandoned main shall be grout filled by pumping a grout mixture into the main with an approved grout. The main shall be completely filled, leaving no voids or air spaces. Grout mix shall be as specified in this specification section.

3. Abandonment by Sealing

All below grade pipe to be abandoned by sealing, either as noted on the Drawings or as a result of demolition of a structure, shall be sealed with grout, Class "C" concrete or brick and mortar. The grout, concrete or brick and mortar shall extend into the pipe for at least 12 inches, forming a solid waterproof plug completely bonded to the pipe.

4. Abandonment of Asbestos Pipe

Abandonment of asbestos piping shall be by either grout filling or sealing. While cutting asbestos pipe the operator must wear a HEPA type particle mask and adhere to all applicable safety standards for handling asbestos containing material.

B. Structures

The structure (including but not limited to manholes, inlets, precast structure, etc.) shall be removed to a point 36 inches below grade or as noted on the Contract Drawings. The remaining structure shall be filled with AASTHO Class A-3 soil, free of organic matter or other deleterious material, compacted to

100% of maximum density as determined by the Laboratory Standard Procter Test, ASTM D698. A tolerance of minus 2% will be allowed in the compactive effort. All pipes leading in and out of the structure to be abandoned shall be sealed or grout filled in accordance with this specification section and as indicated on the Drawings. The portion of the structure to be removed shall be removed from the site and disposed of at an approved disposal facility.

## **2.2 REMOVAL**

### **A. Pipelines**

#### **1. Below Grade**

When called for on the Drawings, removal of existing pipelines shall mean complete removal of the existing pipeline and disposal of the pipe and appurtenances (valves, fittings, thrust blocks, etc.) not indicated to be salvaged. Backfill and compaction shall conform to Section 02200, Excavating, Backfilling and Compacting.

#### **2. Above Grade**

All existing piping and appurtenances (valves, fittings, etc.) located above ground shall be removed to a minimum of 36 inches below the finish grade. The abandoned pipe ends, below grade, shall be sealed with Class "C" concrete or completely grout filled as specified in this section and as indicated on the Drawings.

#### **3. Asbestos Pipe**

Removal of asbestos pipe shall be in accordance with EPA 40 CFR. While cutting asbestos pipe, the operator must wear a HEPA type particle mask and adhere to all applicable safety standards for handling asbestos containing material. Asbestos pipe may be disposed of in an approved landfill site.

### **B. Structures**

Removal of existing structures, where designated on the Drawings, shall be the complete removal of the existing structures. The existing structures shall be removed from the site. Any or all existing pipes in and out of the structure to be removed shall be plugged, grout filled, sealed or connected to the new structure as specified and as indicated on the Drawings. The void left by the structure removal shall be filled and compacted in accordance with Section 02200, Excavating, Backfilling and Compacting.

### **C. Buildings**

Removal of existing structures, where designated on the Drawings, shall be the complete removal of the existing building. The existing building including its foundation shall be removed from the site. All existing services to be capped or plugged. The void left by the building removal shall be filled and compacted in accordance with section 02200, Excavating, Backfilling and Compacting.

## **PART 3 - EXECUTION**

### **3.1 SEWAGE DISPOSAL**

Prior to abandonment or removal of structures used for wastewater, all wastewater and solids shall be removed from the structure and properly disposed of.

### **3.2 DISPOSAL OF DEBRIS**

All material not salvable shall be considered debris and disposed of by hauling to an approved disposal site. The Contractor shall be responsible for the proper disposal of all debris.

### **3.3 SALVABLE MATERIAL**

- A. All equipment, piping, fittings, valves and appurtenances to be removed or abandoned shall be inspected by the City or its Representative immediately prior to removal or abandonment. The City's decision as to the salvability shall be final. Such material which is, in the opinion of the City or its Representative, salvable shall be removed and transported to a location within Jacksonville Beach as designated by the City. If the equipment is not wanted by the City, the Contractor shall become the Owner of the equipment and shall dispose of same. Under no circumstances may existing structures, piping or equipment be removed or demolished without obtaining approval from the City or its Representative. The Contractor shall be responsible for transporting the salvable material to the desired location at no additional cost to the City.

### **3.4 GROUT MIX**

Grout for filling abandoned mains shall consist of at least 15 percent Portland Cement by volume and shall be mixed to a consistency suitable for pumping. Sand used in the mixture shall be composed only of hard, strong, durable, uncoated grains of quartz and shall be free from extraneous substances.

**END OF SECTION**

## **SECTION 02140 DEWATERING**

### **PART 1 – GENERAL**

#### **1.1 DESCRIPTION**

- A. Scope of Work: The work to be performed under this section shall include furnishing all equipment and labor necessary to remove storm or subsurface waters from excavation areas in accordance with the requirements set forth as shown on the Drawings.

#### **1.2 QUALITY ASSURANCE**

- A. The dewatering of any excavation area and the disposal of the water shall be in strict accordance with the latest revision of all local and state government rules and regulations.

### **PART 2 – PRODUCTS (NOT USED)**

### **PART 3 – EXECUTION**

#### **3.1 DEWATERING**

- A. The Contractor shall provide adequate equipment for the removal of storm or subsurface waters, which may accumulate in the excavation.
- B. If subsurface water is encountered, the Contractor shall utilize suitable equipment to adequately dewater the excavation so that it will be dry for work and pipe laying. A well point system or other Engineer approved dewatering method shall be utilized if necessary to maintain the excavation in a dry condition for preparation of the trench bottom and for pipe laying.
- C. Dewatering by trench pumping will not be permitted if migration of fine, grained natural material from bottom, sidewalls, or bedding material will occur.
- D. In the event that satisfactory dewatering cannot be accomplished due to subsurface conditions or where dewatering could damage existing structures, the Contractor shall obtain the Engineer's approval of wet trench construction or procedure before commencing construction.

#### **3.2 DISPOSAL**

- A. Water pumped from the trench or other excavation shall be disposed of in storm sewers having adequate capacity, canals, or suitable disposal pits.
- B. Contractor is responsible for acquiring all permits required to conduct dewatering activities and discharge the water. Contractor shall protect waterways from turbidity during the operation.
- C. In areas where adequate disposal sites are not available, partially backfilled trenches may be used for water disposal only when the Contractor's plan for trench disposal is approved in writing by the Engineer. The Contractor's plan shall include temporary culverts, barricades and other protective measures, as necessary, to prevent damage to property or injury to any person or persons.

- D. No flooding of streets, roadways, driveways, or private property will be permitted. Engines driving dewatering pumps shall be equipped with residential (silent-type) type mufflers. Where practical and feasible, electric “drops” should be used in lieu of portable generators.

**END OF SECTION**

**SECTION 02200**  
**EXCAVATING, BACKFILLING AND COMPACTING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Scope of Work: The work included under this Section consists of clearing, excavating, removal and replacement of unsuitable materials with suitable fill materials, grading and backfilling as required for the construction of the structures, piping and appurtenances as shown on the Drawings and specified herein.
- B. Related Work Described Elsewhere:
1. Dewatering: Section 02140
  2. Pavement Removal and Replacement: Section 02574
  3. Solid Sodding: Section 02934
- C. Plan For Earthwork: The Contractor shall be responsible for having determined to his satisfaction, prior to the submission of his bid, the conformation of the ground, the character and quality of the substrata, the types and quantities of materials to be encountered, the nature of the groundwater conditions, the prosecution of the work, the general and local conditions and all other matters which can in any way affect the work under this Contract. Prior to commencing the excavation, the Contractor shall submit a plan of his proposed operations to the Engineer for review. The Contractor shall consider, and his plan for excavation shall reflect, the equipment and methods to be employed in the excavation. No claims for extras based on substrata or groundwater table conditions will be allowed.
- C. Reference Standards
- FDOT Standard Specifications for Road and Bridge Construction, latest edition:
- Section 120 Excavation and Embankment
  - Section 121 Flowable Fill
  - Section 125 Excavation for Structures and Pipe
  - Section 160 Stabilizing
  - Section 162 Prepared Soil Layer
  - Section 204 Graded Aggregate Base
  - Section 210 Reworking Limerock Base
  - Section 230 Limerock Stabilized Base

**1.2 QUALITY ASSURANCE**

A Testing Laboratory employed by the Contractor will make such tests as are specified. The Contractor shall schedule his work so as to permit a reasonable time for testing before placing succeeding lifts and shall keep the laboratory informed of his progress. Costs for all testing shall be paid by the Contractor, including any and all tests, which have to be repeated because of the failure of the tested material to meet specifications. Testing Laboratory or Contractor shall provide a map of all test locations. All testing shall be done in the presence of the Engineer or the City Representative. The Contractor shall also employ the services of a Geotechnical Engineer. In the event should unsuitable materials be encountered during excavation, the Geotechnical Engineer shall perform all required testing necessary to determine the extent of the unsuitable materials and recommend what remedies shall be necessary including the removal and replacement of unsuitable materials with suitable fill materials. The removal and replacement of unsuitable materials with

suitable fill materials shall be paid for at the unit prices established in the Bid Form.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

#### **A. General:**

1. All fill and backfill material shall be subject to the approval of the Engineer.
2. All fill and backfill material shall be free of organic material, trash, or other objectionable material. The Contractor, shall remove excess or unsuitable material from the job site.

**B. Common Fill Material:** Common fill shall be A-3 sand and shall not contain stones, rock, concrete or other rubble larger than 2 inches in diameter. It shall have physical properties, which allow it to be easily spread and compacted.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

**A. General:** To the maximum extent possible, preserve existing trees and structures within the limits of construction. Any structure that must be disturbed due to Contractor operations shall be returned to its original condition.

### **3.2 EXCAVATION**

#### **A. Excavating for Utilities:**

1. Immediately document the location, elevation, size, material type and function of all new subsurface installations and utilities encountered during the course of construction.
2. Excavation equipment operators and other concerned parties shall be familiar with subsurface obstructions as shown on the Drawings and located in the field and should anticipate the encounter of unknown obstructions during the course of work.
3. Encounters with subsurface obstructions shall be hand excavated.
4. Excavation and dewatering shall be accomplished by methods which preserve the undisturbed state of the suborder soils. Suborder soils which become soft, loose, "quick" or otherwise unsatisfactory for support of structures as a result of inadequate dewatering or other construction methods, shall be removed and replaced by crushed stone as required by the Engineer at the Contractor's expense.
5. All pavements shall be cut for removal with saws and approved power tools.
6. Excavated material shall be stockpiled in such a manner as to prevent nuisance conditions. Surface drainage shall not be hindered.
7. All locations and elevations as required herein must be permanently documented by the Contractor on the As-Built/Record Drawings prior to the Engineer's approval of the Application for Payment for that work.

### **3.3 DRAINAGE**

- A. The Contractor shall at all times during construction provide ample means and devices with which to promptly remove and dispose of all water entering trench and structure excavations and shall keep said excavations acceptably dry, until the structures to be built therein are completed. All water pumped or drained from the Work shall be disposed of in a suitable manner without damage to storm sewer, pavement, pipes, electrical conduits, or any other work and without damage to surrounding property and in accordance with pertinent rules and regulations.
- B. Drainage Shall Be Adequate: No pipe shall be laid in water and no water shall be allowed to rise above the bottom of any pipe while it is being jointed, except as otherwise permitted in writing. No masonry shall be placed in water and no water shall be allowed to rise over masonry until the concrete or mortar has attained its initial set. Nor shall water be allowed to run over the completed masonry for four days. In no event shall water be allowed to rise so as to set up unequal pressures in the structures until the concrete or mortar has set at least 24 hours and also, until any danger of flotation has been removed.
- C. Dewatering, if required, shall be continued during construction to keep the ground water below the level of the backfill at all times until the backfill is completed.

### **3.4 FILL AND COMPACTION**

- A. All pipe trenches shall be backfilled with suitable material compacted to 95% (98% under all pavement) of ASTM D1557 in 6 inch lifts. The material should exhibit moisture content within  $\pm 2$  percent of the Modified Proctor optimum moisture content (AASHTO T-180) during the compaction operations. Special care shall be taken on each side of the pipes and to 12 inches above pipe. All trench work shall be in compliance with Florida Chapter 90-96 "Trench Safety Act".
- B. Field density tests shall be determined in each layer of backfill at the following locations:
  - 1. Every 200 feet.
  - 2. Every street crossing.
  - 3. Every structure location
  - 4. Other locations as determined by the City's Representative.
- C. Excavations shall be backfilled to the original grade or as indicated on the Drawings. Deviation from this grade because of settling shall be corrected. Backfill operation shall be performed to comply with all rules and regulations and in such a manner that it does not create a nuisance or safety hazard.

### **3.5 SHEETING, SHORING, AND BRACING**

- A. The Contractor shall provide and install such sheeting and shoring as may be required to support the sides of any excavation to prevent earth movement that could endanger the work or workmen, or any existing structures, or to confine the construction within a specified area such as an easement or street right-of-way. It shall be the Contractor's responsibility to place this sheeting and shoring for such protective purposes without the Engineer's instructions. Pipeline sheeting shall extend a minimum of three (3) feet below pipe or structure. In the process of extraction of sheeting, the use of vibratory type pile drivers (as opposed to impact type) shall be limited to that sheeting driven no greater than five (5) feet below the pipe invert.
  - 1. Contractor shall hire a specialty professional engineer licensed in the State of Florida to design the stabilization system. Design shall be signed and sealed and submitted to the City and Engineer for review.
- B. For excavations less than ten (10) feet in depth, the Contractor shall provide and install such sheeting and shoring as he may deem necessary. Such sheeting and shoring will be considered as being for the

Contractor's convenience and benefit and all costs of furnishing, driving, and removing same shall be borne by him. Sheeting for excavations less than ten (10) feet in depth may be timber or steel at the Contractor's option, unless specified on the Contract Drawings and Documents, or specified by the Engineer.

- C. Unless otherwise directed by the Engineer, all timber sheeting shall be cut off a minimum of 30 inches below grade and left in place, with proper bracing to provide lateral support. Timber sheeting, bracing and shoring above the cut-off elevation shall be removed by careful extraction so as not to endanger other structures or property. All voids left shall be immediately backfilled with approved materials and compacted.
- D. Steel sheeting shall be required for all excavations ten (10) feet or more in depth and at such other locations as may be indicated on the Drawings. Steel sheeting may be completely removed when sufficient backfill has been placed to prevent damage to the work and/or existing structures. Care shall be exercised to prevent the opening of voids during the extraction process.
- E. Steel sheeting shall be left in place when so authorized by the Engineer. The top of steel sheeting left in place shall be no less than 30 inches below grade unless otherwise shown on the Drawings, or directed by the Engineer.
- F. Steel drag shields or trench boxes may be used, location, fabrication and operation subject to written approval of the Engineer, and shall be Steel Safety Shield manufactured by Safety Shoring Shields, Inc., 155 North Dean Street, Englewood, New Jersey, 07861; Efficiency Trench Box manufactured by Efficiency Production, Inc. 2360 East Jolly Road, Okemos, Michigan 48864; or approved equal. Voids left by the advancement of the shield shall be carefully backfilled and compacted in accordance with trench backfill requirements.

## **END OF SECTION**

**SECTION 02314  
FINE GRADING**

**PART 1 - GENERAL**

**1.1 WORK INCLUDED**

- A. Provide all labor, materials, necessary equipment and services to complete the Fine Grading (Landscape Grading) work for hardscape and landscape, as indicated on the Drawings, as specified herein or both.

**1.2 QUALITY ASSURANCE**

- A. Requirements of all applicable building codes and other public agencies having jurisdiction upon the work.
- B. Primary emphasis should be given to the aesthetic appearance and functioning of berms, swales and ditch, as directed by the Owner's Representative. The Contractor shall employ skilled personnel and any necessary equipment to ensure that finish grading is smooth, aesthetically pleasing, drains well with positive overland drainage, and is ideal for receiving sod, seed, and plant materials. Grades, storm water swales and ditches, and erosion control established by prior mass grading shall be maintained during the execution of this Work.

**1.3 SITE INSPECTION**

- A. The Contractor shall visit the site and acquaint himself with all existing conditions. The Contractor shall be responsible for his own subsurface investigations, as necessary, to satisfy requirements of this Section. All subsurface investigations shall be performed only under time schedules and arrangements approved in advance by the Owner's Representative. The Contractor shall inspect and accept existing grades, swales and ditches, and erosion control prior to commencing the Work.

**1.4 EXISTING CONTOURS**

- A. Existing grades shall be considered approximate in nature.
- B. Major Demolition, site preparation, and general site earthwork will be accomplished prior to fine grading. Verify that contours and grades established are within two-tenths (0.2) of a foot of proposed grades shown on grading plans. Make whatever corrections and/or repairs necessary to make finish grades consistent with the requirements of the grading drawings and specifications.

**1.5 UTILITIES**

- A. Before starting site operations, Contractor shall be solely responsible for verifying that all temporary utilities that might interfere with the fine grading work have been disconnected or relocated.
- B. Contractor shall locate all existing utility lines traversing the site and determine the requirements for their protection. Preserve in operating condition all active utilities adjacent to or traversing the site that are designated to remain.
- C. Contractor shall observe rules and regulations governing respective utilities in working under requirements of this section. Adequately protect utilities from damage, remove or relocate as indicated, specified or required. Remove, plug or cap inactive or abandoned utilities encountered in excavation. Record location of all utilities.

## **PART 2 - PRODUCTS**

### **2.1 EXISTING SOIL**

- A. Use suitable on-site material, unless otherwise directed by the Owner's Representative, free from weeds, debris, sod, biodegradable materials, and other deleterious materials. The Contractor shall ensure that all existing soil has sufficient percolation and surface drainage to support grasses and plant material and that extreme compaction occurs only in areas to receive paving.
- B. In all areas to receive plant material, verify that existing soil is removed to a depth of 3" to permit installation of planting mix if required.

## **PART 3 - EXECUTION**

### **3.1 JOB CONDITIONS**

- A. Dust Control – Use all means necessary to prevent dust from construction operations from being a nuisance to adjacent property Owners and from damaging finish surfaces on adjacent buildings, paving, etc. Methods used for dust control are subject to approval by the Owner's Representative.
- B. Erosion Control – Use any and all "Best Management Practices" (BMPs) required to eliminate erosion. Contractor shall incur all costs to establish and maintain erosion control. This will include all repairs and replacement required in the event of BMP failure.
- C. Burning – On-site burning shall not be permitted. All debris shall be disposed of off-site at the Contractor's expense.
- D. Protection – Use all means necessary to protect curbs, gutters, sprinklers, utilities and vegetation designated to remain, and in the event of damage, make all repairs, replacements and dressings to damaged plants necessary. Contractor shall incur all cost for replacement of damaged objects and vegetation.

### **3.2 SCHEDULING**

- A. Schedule all work in a careful manner with all necessary consideration for other trades, adjoining property Owners, land parcels, and the public.
- B. Coordinate schedule with other Contractors to avoid conflicts with their work.

### **3.3 EXCAVATION**

- A. Excavate where necessary to obtain subgrades, percolation, and surface drainage as required.
- B. Materials to be excavated are unclassified.
- C. Remove entirely any existing obstructions after approval by the Owner's Representative.
- D. Remove debris and excavated material that is not required from the site and dispose of properly.

### **3.4 GRADING**

- A. Finished grading shall be smooth, aesthetically pleasing, drain well, and ready to receive sod and other plant material to full satisfaction of the Owner's Representative.

### **3.5 COMPACTION**

- A. Compact each layer of fill in designated areas with approved equipment to achieve a maximum density at optimum moisture, AASHTO T 180, latest edition.
  - 1. Under buildings, roadways, curbs, walks, and other paved areas: Compaction shall be to 98% of maximum density.
  - 2. Unpaved areas other than landscaped areas: Compaction shall be to 95% of maximum density.
  - 3. Under landscaped area: Compaction shall not exceed 85% of maximum density.
- B. No backfill shall be placed against any masonry or other exposed building surface until permission has been given by the Owner's Representative, and in no case until the masonry has been in place seven (7) days.
- C. Compaction in limited areas shall be obtained by the use of mechanical tampers or approved hand tampers. When hand tampers are used, the materials shall be deposited in layers not more than four inches thick. The hand tampers used shall be suitable for this purpose and shall have a face area of not more than 100 square inches. Special precautions shall be taken to prevent any wedging action against masonry, or other exposed building surfaces.

### **3.6 CORRECTION OF GRADE**

- A. Bring to required grade levels areas where settlement, erosion, or other grade changes occur. Adjust grades as required to carry drainage away from buildings and to prevent ponding around the buildings and on pavements.
- B. Remove all rock or objectionable material larger than one (1) inch any direction prior to commencing landscaping.
  - 1. All berms, swales and ditches, and slopes shall be smoothed with gentle curves and transitions. All finish grades shall be verified that they meet the approval of Owner's representative prior to proceeding with subsequent phases of construction. The Owner's representative reserves the right to adjust finish grades in order to achieve the intended appearance of the project.
  - 2. Newly graded areas shall be protected from traffic and erosion. All settlement or washing away that may occur from any cause prior to acceptance shall be repaired and grades re-established to the required elevations and slopes at no additional cost to the Owner. All areas to be sodded shall be fine graded immediately before the sod is placed.
  - 3. Unless otherwise indicated, all surplus material shall be disposed of by the Contractor as directed by the Owner's representative.

### **3.7 ACCEPTANCE**

- A. The Contractor shall notify the Owner's Representative when fine grading is substantially complete.
- B. No installation of sod, seed, plant materials, or hardscape elements shall occur prior to Final Acceptance of the fine grading.
- C. A substantial completion inspection shall be conducted with all deficiencies noted and given to the Contractor as a punch list of items to be corrected. Substantial completion acceptance will not be issued until all punch list items have been completed and a reinspection by the Owner is done.

- D. Once the reinspection for compliance with the punch list requirements has been conducted and barring any new deficiencies being noted during the reinspection, written acceptance will be given for all work of this Section. If any deficiencies of requirements exist, they will be noted in writing.
- E. Upon written substantial completion acceptance being given, the Contractor may initiate installation of plant materials and/or hardscape elements. The Contractor is responsible for all maintenance until final acceptance, as specified in this section of finegrading.

**END OF SECTION**

**SECTION 02427  
SEWAGE MANHOLES**

**1. GENERAL**

**A. SCOPE OF WORK**

The Work under this section shall include all labor, material and equipment necessary for the construction and installation of all new sewage manholes and the removal of existing sewage manholes as called for on the Drawings. All bypass pumping operations required to complete the gravity sewer main/service installations shall be included as part of the unit price for installing the gravity system piping and related structures. Bypassing pumps shall be the silent-pack type units to minimize the sound associated with the work. All references to Industry Standards (ASTM, ANSI, AWWA, etc.) shall be to the latest revision unless otherwise stated. All materials shall be new unless specifically called for otherwise.

**B. SHOP DRAWING SUBMITTALS**

The Contractor shall submit shop drawings consisting of individual manholes showing invert elevations, pipe sizes and similar details for approval before placing order for sewage manholes.

**2. MATERIALS**

**A. PRECAST CONCRETE SEWAGE MANHOLES**

Sewage manhole bases, sections and cones shall conform to the requirements of ASTM C478, "Specification for Precast Reinforced Concrete Manhole Sections" with the exception of Section 10(a), except as modified herein. Cement shall meet the requirements of ASTM C150, "Specification for Portland Cement Type H". Concrete shall meet the minimum requirements for Class "A". Concrete Work (2-1/2" plus or minus slump). Minimum wall thickness shall be 1/12 the inside diameter of the manhole in inches plus 1 inch. The required minimum strength of concrete shall be confirmed by making and testing four (4) standard cylinders at twenty-eight days (4,000 psi). Rings shall be custom-made with openings to meet indicated pipe alignment conditions and invert elevations.

**1. BASES**

Bases for concrete manholes shall be cast integrally with the bottom manhole section.

**2. JOINTS**

Joints shall be tongue and groove configuration formed with machined castings. The joint shall be sealed using an approved pre-molded plastic joint sealer. Prior to placement of the joint sealer the joint surfaces shall be primed in accordance with the recommendations of the sealer manufacturer.

**3. COATING**

3.1. With the exception of joint contact surfaces and the interior surfaces of all openings to receive the sewer pipe and a 1-inch annular ring around the interior and exterior of said openings, the exterior surfaces of each concrete manhole, including adjusting rings, shall be given two (2) coats of bitumastic coating. Total minimum dry film thickness shall be 12 mils. Each coat shall be applied at a rate not to exceed one gallon per 100 square feet. The waterproofing materials shall be applied by brush or spray and in accordance with the instructions of the manufacturer. Time shall be allowed between coats to permit sufficient drying so that the application of the second coat has no effect on the first coat. Special precaution shall be taken not to coat joint contact surfaces. Only the exterior shall receive the bitumastic coating.

3.2. All concrete manholes shall be coated internally with "Spectrashield". The Contractor or subcontractor installing or repairing Spectrashield liner system shall be certified and approved

by the product manufacturer, CCI Spectrum, Inc. CCI Spectrum, Inc. shall provide a 10 year warranty for installations.

#### 4. WATER STOPS

For PVC pipe installation into the manhole, the Contractor shall install a water stop as manufactured by the pipe supplier. The water stop shall be installed on the pipe according to the manufacturer's recommendations; upon completion of this the Contractor shall then mortar or grout same into the precast annular opening as specified in this section of the specifications.

#### 5. FLEXIBLE MANHOLE CONNECTOR

As an alternate method of connecting the sewer pipe to the precast concrete manhole, a flexible pipe to manhole connector may be used. The connector shall be the sole element to assure a flexible watertight seal of the pipe to the manhole.

##### 5.1. Material

The Neoprene-EPDM material the connector is manufactured from shall conform to ASTM C443 and shall be a minimum of 3/8 inches (9.4mm) thick or greater. The material shall be resistant to ozone, weathering, aging, and chemicals, including acids, alkalis, animal and vegetable fats, oils and petroleum products.

##### 5.2. Bands

The stainless steel band and screw assembly shall be a totally non-magnetic series 304 stainless steel.

##### 5.3. Connector

The connector shall be of a size specifically designed for the specified pipe material and size. The connector shall be installed in the manhole wall by the precast manufacturer in strict accordance with the recommendations of the connector manufacturer. During the invert construction stage, the interior annular space between the exterior of the pipe and the interior of the connector shall be filled with a Type II lean cement grout by the Contractor.

### B. FIBERGLASS SEWAGE MANHOLES

#### 1. GENERAL

Fiberglass reinforced polyester manhole shall be manufactured from commercial grade unsaturated polyester resin with fiberglass reinforcements. Manhole shall be a one piece unit manufactured to meet or exceed all specifications of ASTM D3753.

#### 2. MANUFACTURE

##### 2.1. RESIN

The resins used shall be a commercial grade unsaturated polyester resin.

##### 2.2. REINFORCING MATERIALS

The reinforcing materials shall be commercial Grade "E" type glass in the form of mat, continuous roving, and chop roving, having a coupling agent that will provide a suitable bond between the glass reinforcement and the resin.

##### 2.3. INTERIOR SURFACING MATERIAL

The inner surface exposed to the chemical environment shall be a resin-rich layer of 0.010 to 0.020 inches thick. The inner surface layer exposed to the corrosive environment shall be followed with a minimum of two passes of chopped roving of minimum length 0.5 inches (13 mm) to maximum length of 2.0 inches (50.8 mm) and shall be applied uniformly to an equivalent weight of 3 oz/ft<sup>2</sup>. Each pass of chopped roving shall be well-rolled prior to the application of additional reinforcement. The combined thickness of the inner surface and interior layer shall not be less than 0.10 inches (2.5 mm).

### 2.3. WALL CONSTRUCTION PROCEDURE

After the inner layer has been applied, the manhole wall shall be constructed with a chop and continuous strand filament wound manufacturing process which insures continuous reinforcement and uniform strength and composition. The cone section, if produced separately, shall be affixed to the barrel section at the factory with a resin-glass reinforced joint resulting in a one piece unit. Seams shall be fibreglassed on the inside and the outside using the same glass-resin jointing procedure. Field joints shall not be acceptable.

### 2.5. EXTERIOR SURFACE

For a UV inhibitor the resin on the exterior surface of the manhole shall have gray pigment added for a minimum thickness .125 inches. The exterior surface shall be relatively smooth with no sharp projections. Hand-work finish is acceptable if enough resin is present to eliminate fiber show. The exterior surface shall be free of blisters larger than 0.5 inches in diameter, delamination or fiber show.

### 2.6. INTERIOR SURFACE

The interior surface shall be resin rich with no exposed fibers. The surface shall be free of crazing, delamination, blisters larger than 0.5 inches in diameter and wrinkles of 0.125 inches or greater in depth. Surface pits shall be permitted if they are less than 0.75 inches in diameter and less than 0.0625 inches deep. Voids that cannot be broken with finger pressure and that are entirely below the resin surface shall be permitted if they are less than 0.5 inches in diameter and less than 0.0625 inches thick.

### 2.7. STUB-OUTS AND CONNECTIONS

Stub-outs must be installed per manufacturer's instruction. Installation of smooth exterior PVC sewer pipe must be performed by sanding, priming, and using resin fiber-reinforced hand lay-up. The resin and fiberglass shall be the same type and grade as used in the fabrication of the fiberglass manhole. Special fittings or boots may be installed by manhole manufacturer.

### 2.8. MANHOLE BOTTOM

When indicated on the drawings, manholes shall have resin fiber-reinforced bottoms. Bottom shall have a minimum of three 1½ inch deep x 3½ inch wide stiffening ribs completely enclosed with resin fiber-reinforcement and have a minimum of 3 inch anti-flotation ring. Manhole bottom shall be a minimum of 5/16 inches thick.

### 2.9. FILLERS AND ADDITIVES

Fillers, when used, shall be inert to the environment and manhole construction. Sand shall not be accepted as an approved filler. Additives, such as thixotropic agents, catalysts, promoters, etc. may be added as required by the specific manufacturing process to be used to meet the

requirements of this standard. The resulting reinforced-plastic material must meet the requirements of this specification.

3. DESIGN PROPERTIES

3.1. INTERIOR ACCESS

All manholes shall be designed so that a ladder or step system can be supported by the installed manhole.

3.2. MANWAY REDUCER

Manway reducers will be concentric with respect to the larger portion of the manhole diameters through 60 inches. Larger manholes may have concentric or eccentric manway reducer openings.

3.3 OVER AND RING SUPPORT

The manhole shall provide an area from which a typical ring and cover plate can be supported without damage to the manhole.

3.4. MANHOLE LENGTHS

Manhole lengths shall be in 6 inch increments +/- 2 inches.

3.5. DIAMETER TOLERANCE

Tolerance of inside diameter shall be +/- 1% of required manhole diameter.

4. PHYSICAL REQUIREMENTS

4.1. PHYSICAL PROPERTIES

	Hoop <u>Direction</u>	Axial <u>Direction</u>
i. Tensile Strength (psi)	18,000	5,000
ii. Tensile Modules (psi)	0.6 x 10 <sup>6</sup>	0.7 x 10 <sup>6</sup>
iii. Flexural Strength (psi)	26,000	4,500
iv. Flexural Modules (psi)	1.4 x 10 <sup>6</sup>	0.7 x 10 <sup>6</sup>
v. Compressive (psi)	18,000	12,000

4.2. LOAD RATING

The complete manhole shall have a minimum dynamic-load rating of 16,000 lbf. When tested in accordance with ASTM D3753 8.4 (note 1). To establish this rating the complete manhole shall not leak, crack or suffer other damage when load tested to 40,000 lbf and shall not deflect

vertically downward more than 0.25 inch at the point of load application when loaded to 24,000 lb.

4.3. STIFFNESS

The manhole cylinder shall have the minimum pipe-stiffness values shown in the table below when tested in accordance with ASTM D3753 8.5 (note 1).

<u>MANHOLE LENGTH IN FEET</u>	<u>PSI</u>
3 - 6.5	0.75
7 - 12.5	1.26
13 - 20.5	2.01
21 - 25.5	3.02
26 - 35	5.24

4.4. SOUNDNESS

In order to determine soundness, apply an air or water pressure test to the manhole test sample. Test pressure shall not be less than 3 psig or greater than 5 psig. While holding at the established pressure, inspect the entire manhole for leaks. Any leakage through the laminate is cause for failure of the test. Refer to ASTM D3753 8.6.

4.5. CHEMICAL RESISTANCE

When tested in accordance with ASTM D3753 8.7 the log of percent retention of each property after immersion testing when plotted against the log of immersion time, and extrapolated to 100,000 hours, shall assure retention of at least 50% of initial properties.

4.6. REQUIRED THICKNESS FOR BURIED MANHOLES

Assumptions:	Hoop Modulus =	4,000,000 psi
	Soil Modulus =	1000 psi (minimum)
Diameter	Wet Soil Depth (max)	Minimum Thickness
<u>(Inches)</u>	<u>(Feet)</u>	<u>(Inches)</u>
48	10	.25
	20	.3125
	30	.375
60	10	.375
	20	.4375
	30	.5

(Inches)	(Feet)	(Inches)
72	10	.4375
	20	.5
	30	.5625
96	10	.5625
	20	.625
	30	.75

#### 4.7. TEST METHODS

All tests shall be performed as specified in ASTM D3753 Section 8. Test method D-790 (see note 5) and test method D-695.

#### 4.8. CERTIFICATION

As a basis of acceptance, the manufacturer shall provide an independent certification which consists of a copy of the manufacturer's test report and a copy of the test results that the manhole has been sampled, tested and inspected in accordance with the provision of this specification and meets all requirements.

#### 4.9. MARKING AND IDENTIFICATION

Each manhole shall be marked on the inside and outside with the following information:

- i. Manufacturer's name or trademark
- ii. Manufacturer's factory location
- iii. Manufacturer's serial number
- iv. Total length

### C. CAST IRON SEWAGE MANHOLE FRAMES AND COVERS

Cast iron sewage manhole frames and covers shall be of the type as shown in the Drawings. The cover shall bear the name, "City of Jacksonville Beach, Florida". Manhole cover shall be 34 and 1/8 inches in diameter. Castings shall be made of good quality, strong, tough, even grained cast iron and shall be smooth, free from scale, lumps, blisters, sandholes and defects of any nature which would render them unfit for the service for which they are intended. They shall be thoroughly cleaned. Castings shall meet the requirements of ASTM A48, "Specifications for Gray Iron Castings, Class No. 30, or Grade 65-45-12" and Ductile Iron meeting the requirements of ASTM A536, "Standard Specification for Ductile Iron Castings". In either case, manhole frame and cover shall be designed to withstand an HS20-44 loading defined in the AASHTO Specifications. Frames and covers shall be machined or ground at touching surfaces so as to seat firmly and prevent rocking. Any set not matching perfectly shall be removed and replaced at no additional cost. Cover shall set flush with rim of frame and shall have no larger than an 1/8 inch gap between frame and cover.

**D. CONCRETE ADJUSTMENT RINGS (MANHOLE COLLARS)**

Concrete adjustment rings shall be 4000 psi concrete, Type II cement. Minimum height of rings shall be 3 inches. Maximum height shall be 18 inches. Rings shall be grouted in place.

**E. MATERIAL WARRANTY**

The manufacturer of materials furnished on the project shall supply to City of Jacksonville Beach, a one (1) year unconditional warranty. The warranty shall be limited to the material which shall constitute complete replacement and delivery to the site of materials only to replace defective materials with new materials conforming to the specifications. This warranty is contingent upon determination of failure by a private independent testing laboratory. The testing shall prove that the failure was caused by failure of the material. The testing laboratory shall be selected by and agreed upon by both parties involved. This warranty is in addition to any warranty required for pipe linings herein before specified.

**3. INSTALLATION**

**A. PRECAST CONCRETE SEWAGE MANHOLES**

**1. SETTING SEWAGE MANHOLE BASES**

Sewage manhole bases shall be set level on a bedding consisting of 4 inches of rock (57 stone) mixed with bags of dry cement in quantities.

**2. INSTALLING SECTIONS**

Precast concrete sections shall be set so the manhole will be vertical and with sections in true alignment. Joint surfaces of the base or previously set section shall be sealed with pre-molded plastic joint sealer. Joints shall be pre-primed.

**3. METALLIC NON-SHRINK MORTAR**

All holes in sections used for handling and the annular space between the wall and entering pipes shall be thoroughly plugged with non-shrinking mortar or grout applied and cured in strict conformance with the manufacturer's recommendations so that there will be zero leakage through openings and around pipes. The mortar shall be finished smooth and flush with the adjoining interior and exterior manhole wall surfaces.

**4. GRADE ADJUSTMENT**

For grade adjustment in setting the manhole frame concrete adjustment rings shall be used on top of manhole slabs and precast concrete manhole cones in accordance with the drawings.

**5. SETTING SEWAGE MANHOLE FRAMES**

Sewage manhole frames and covers shall be set to conform accurately to the finished ground or pavement surface as established by the Contract Drawings, unless otherwise directed by the Engineer. Frames on manhole cones shall be set concentric with the masonry and in a full bed of mortar so that the space between the top of the manhole and the bottom flanges of the frame shall be completely filled and made water tight. A ring of mortar at least 1 inch thick and pitched to shed water away from the frame shall be placed around the outside of the bottom flange. Mortar shall extend to the outer edge of the concrete adjustment rings and shall be finished smooth and flush with the top of the flange.

**B. FLOW CHANNELS**

Flow channels in the manhole base shall be formed of Class "C" concrete, while the manhole is under construction. Flow channels shall be solid concrete or concrete with solid filler blocks. No rubble shall be allowed. Cut off pipes at inside face of the manhole and construct the invert to the shape and size of

pipe indicated. All inverts shall follow the grade of the pipe entering the manhole. A change in direction of the sewer and entering branch or branches shall be laid out in smooth curves of the longest possible radius which is tangent to the center lines of adjoining pipelines.

**C. DROP INLETS**

Where shown on the drawings, drop inlets to the manhole shall be constructed as shown on the City of Jacksonville Beach Standard Details and specified herein.

**D. CONNECTIONS TO EXISTING STRUCTURES**

**1. OPENING**

The Contractor shall core suitable openings using a coring machine, jigsaw or hole saw into the existing structure or remove the existing pipe to accommodate the pipelines as indicated on the Drawings and as specified. The portion of each existing structure removed for new installation shall be confined to the smallest opening possible, consistent with the work to be done. Fiberglass manholes shall have the cut out in the wall equal to the outside diameter of pipe, plus ½ inch maximum.

**2. REPAIR – CONCRETE STRUCTURES**

After the pipe is installed the Contractor shall carefully close up the openings around the pipe, using non-shrink mortar and repair the existing structure invert, if necessary, in a manner satisfactory to the Engineer. If the existing structure has a specialty coating, repair that coating using coating manufacturer's product and installation requirements.

**4. SEWAGE MANHOLE ABANDONMENT AND REMOVAL**

**A. SEWAGE MANHOLE ABANDONMENT**

Sewage manhole abandonment shall be in accordance with Section 02111 Demolition and Abandonment (Building, Mechanical, Pipeline, etc.) of these specifications.

**B. SEWAGE MANHOLE REMOVAL**

Removal of existing manholes shall include the complete removal of said manholes where so noted on the Drawings.

**1. REMOVAL ONLY**

Where no new structure is designated to replace the removed manhole, the void, left by the manhole removal shall be filled and compacted in accordance with Section 02200 – Excavating, Backfilling and Compacting of these specifications.

**2. REMOVE AND CONSTRUCT**

Where a new structure is designated to replace an existing manhole, complete removal of the existing manhole shall be achieved so as to permit the construction of a new manhole at approximately the same location.

3. DISPOSAL OF STRUCTURE

The existing manhole to be removed shall be removed from the site. The rubble shall be disposed of without damage to any of the new or existing facilities at the site. The debris shall be hauled to a disposal site to be designated or approved by the Engineer.

5. CONTRACTOR WARRANTY

The Contractor shall supply to City of Jacksonville Beach a one (1) year unconditional warranty. The warranty shall include materials and installation and shall constitute complete replacement and delivery to the site of materials and installation of same to replace defective materials or defective workmanship with new materials/workmanship conforming to the specifications.

**END OF SECTION**

**SECTION 02574**  
**PAVEMENT REMOVAL AND REPLACEMENT**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Scope of Work: Work included under this Section consists of cutting, removing, replacing, protecting and replacing existing pavements of the various types encountered, driveways, sidewalks, curb, and combination curb and gutter.
- B. Protection of Existing Improvements: The Contractor shall be responsible for the protection of all existing and new improvements to pavements, sidewalks and other paved areas within the work area. All damage to such existing or new paving components, as a result of the Contractor's operations, beyond the limits of the work of pavement replacement as described herein, shall be repaired by the Contractor at his expense.
- C. Reference Standards

FDOT Standard Specifications for Road and Bridge Construction, latest edition:

- Section 204 Graded Aggregate Base
- Section 230 Limerock Stabilized Base
- Section 300 Prime and Tack Coats
- Section 330 Hot Mix Asphalt – General Construction Requirements
- Section 334 Superpave Asphalt Concrete

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Materials, including bituminous prime and tack coat, and asphaltic concrete for the above work shall meet the requirements established herein and applicable requirements of the Florida Department of Transportation.
  - 1. Asphaltic concrete shall be Structural Course SP-9.5 Traffic Level C. The asphalt mixture is to be limited to a maximum 15% recycled asphalt pavement (RAP).
  - 2. Crushcrete Base (Graded Aggregate Base)

**PART 3 - EXECUTION**

**3.1 PERFORMANCE**

- A. Removals:
  - 1. Pavement Removal:
    - a. Where existing pavement is to be removed, the surfacing shall be mechanical saw cut prior to trench excavation, leaving a uniform and straight edge, with minimum disturbance to the remaining adjacent surfacing. The width of cut for this phase of existing pavement removal shall be minimal.
    - b. Immediately following the specified backfilling and compaction, a temporary sand seal coat

surface shall be applied to the cut areas. This temporary surfacing shall provide a smooth traffic surface with the existing roadway and shall be maintained until final restoration. Said surfacing shall remain for 10 days in order to assure the stability of the backfill under normal traffic conditions. Following this period and prior to 15 days after application, the temporary surfacing shall be removed and final roadway surface restoration accomplished.

- c. In advance of final restoration, the temporary surfacing shall be removed and the existing pavement, mechanically sawed straight and cleaned to the stipulated dimensions. Following the above operation, the Contractor shall proceed immediately with final pavement restoration in accordance with these requirements.

2. Sidewalk, Drive and Curb Removal: Concrete sidewalks, curbs, combination curb and gutter, walks, drive ribbons, or driveways shall be removed by initially sawing the structure, with a suitable power saw, as specified above for pavement. When a formed joint in the concrete exists within 3 feet of the proposed saw cut and parallels the proposed saw cut, the removal line shall be extended to the formed joint. After sawing, the material shall be removed.
3. Pavers: Pavers within areas noted for excavation and construction shall be carefully removed and securely stored by Contractor until completion of construction in the area when the pavers can be restored.

B. Restorations:

1. General: Street or roadway pavement cut and removed or pavers removed in connection with trench excavation shall be replaced or restored in equal or better condition than the original and as shown on the Drawings. The Drawings indicate minimum requirements.
2. Pavement Restoration - Asphalt: Asphaltic concrete shall be Structural Course SP-9.5 Traffic Level C, a minimum of 2 inches thick over a minimum of 6-inches crushcrete base (graded aggregate base), LBR 100, 100% maximum density, AASHTO T-180.
3. Asphalt Driveway Restoration - Driveway pavement with base cut and removed in connection with trench excavation shall be replaced or restored as specified above for street or roadway pavement, except the new base course shall equal the existing base course in thickness, except that in no case shall new driveway base course (crushcrete) be less than 6 inches in thickness and the asphaltic concrete shall be Structural Course SP-9.5 Traffic Level C, 2 inches thick. Muck or unsuitable material found under existing driveway construction will not be removed and replaced.
4. Concrete, Sidewalk, Walkway, Driveway, Driveway Ribbon, Curb, and Curb and Gutter Restoration:
  - a. Concrete sidewalks, walkways, driveways, driveway ribbons, curb, and curb and gutter required to be removed for the installation of facilities under this Contract shall be restored. Concrete shall be monolithic construction and shall be 3000 PSI (unless otherwise noted on Drawings) for sidewalks, walkways, driveways, driveway ribbon, curb, and curb and gutter combination restoration, ready-mixed concrete with commercial grade fiber-mesh.
  - b. Replaced portions of these items shall conform to the lines, grades, and cross sections of the removed portions. Concrete driveways and driveway ribbons shall be 6 inch thickness. Concrete sidewalks and walkways shall be 4 inch thickness. Replaced concrete curb and/or gutter shall joint neatly to the remaining section.
5. Paver Restoration: Pavers used in roadway areas shall be restored at the completion of construction. Damaged pavers shall be replaced at no additional cost to Owner. Base material shall be minimum of 6-inches of crushcrete base (graded aggregate base), LBR 100, 100%

maximum density, AASHTO T-180.

6. Unsurfaced streets, alleys and driveways shall be restored with 8 inches of compacted base material placed in the top of the trench, unless specified to be paved in the contract drawings.

**END OF SECTION**

## **SECTION 02576 COLD MILLING**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes: Process of removing all or portions of existing asphalt pavement to remove distressed pavement, restore cross-section, improve profile, restore clearances, or improve drainage.
- B. Related Sections: Refer to following section for related work:
  - 1. Section 02574: Pavement Removal and Replacement

#### **1.2 DEFINITIONS**

Excessive Grooving: Variation in milled surface in excess of 1 inch (25 mm) from high point to low point across width of surface milled by each pass of milling machine.

### **PART 2 - PRODUCTS**

#### **2.1 EQUIPMENT**

Milling Machine: Specially designed and built for milling of bituminous pavements without addition of heat, and ability to plane Portland cement concrete patches in bituminous pavements.

- A. Cutting Drum: Minimum 60 inches (1.5 m) wide and equipped with carbide-tipped butting teeth placed in variable lacing pattern to produce desired finish.
- B. Capable of being operated at speeds from 0 to 40 feet (0 to 12m) per minute, self-propelled and capable of spraying water at cutting drum to minimize dust while maintaining enclosed cutting area.
- C. Capable of removing material next to gutter of pavement being reconditioned and designed to enable operator at all times to observe milling operation without leaving controls.
- D. Adjustable for slope and depth, capable of accurately controlling profile grades and cross slopes within tolerance of plus or minus one inch (25 mm). Equipment shall control profile grades by using either independent grade control or minimum 40 foot (12 m) external reference and shall also have cross slope elevation controls.
- E. Provide smaller machine if required to trim areas inaccessible to larger machine at manholes, gate valve covers, curb returns and intersections.
- F. Milling equipment shall be equipped with means to effectively limit amount of dust escaping from milling operation.

### **PART 3 – EXECUTION**

#### **3.1 PREPARATION**

Traffic Signal Loop Detectors: Before cold milling pavement within 300 feet (90 m) of traffic signal, notify City of Jacksonville Traffic Engineering Division at least 3 working days prior to commencing work within area.

- A. Upon notification, Jacksonville Traffic Engineering Division will coordinate marking location of existing

loop detectors.

- B. Do not cold mill within 12 inches (305 mm) of loop detector conductors.
- C. Damage to existing loop caused by milling operation will require replacement of loops in their entirety at the Contractor's expense.

### **3.2 PROCEDURE**

- A. General: Cold mill existing pavement surface to depth, width and grade as indicated in Contract documents or as directed by City of Jacksonville Beach Public Works Department (COJBPWD). Surface of pavement after milling shall be uniformly rough grooved or ridged as directed by COJBPWD.
- B. Cold Milling of Pavement surfaces. Thickness of pavement removal shall be described as nominal thickness, with ranges as follows:
  - 1. Nominal ¾-inch (19.1 mm) Cut: ¾-inch (19.1 mm) average of cuts ranging from 0 to 1-1/2 inches (0 to 38.1 mm).
  - 2. Nominal 1-inch (25 mm) Cut: 1 inch (25 mm) average of cuts ranging from 0 to 2 inches (0 to 51 mm).
  - 3. Nominal 1 ½-inch (38.1 mm) Cut: 1 ½-inch (38.1 mm) average of cuts ranging from 0 to 3 inches (0 to 76 mm).
  - 4. Nominal 2-inch (51 mm) Cut: 2 inch (51 mm) average of cuts ranging from 0 to 4 inches ((0 to 102 mm).
- C. Loosened Material: During milling operation, sweep street with mechanical equipment and remove loosened material form site until completion of removal work. Follow no closer than 50 feet (15 m) behind milling machine to remove millings or sweep loosened material.
- D. Pavement Transitions: In areas where cold milling is done, but will not be paved within 1 week, overlay with 2-foot (610 mm) minimum width of asphalt concrete pavement transition adjacent to gutters, cross gutters and structures and at existing transverse joint lines. Pavement transition may be omitted when vertical offset between milled surface and adjacent riding asphalt surface is less than 3/8 inch (9.5 mm).
- E. Tolerances: When 10 foot (3 m) straight edge is laid on finished surface parallel to centerline of roadway surface shall not vary from edge of straightedge more than 3/8 inch (9.5 mm), except at intersections or any changes of grade.
  - 1. Adjust to establish depth in increments of 1 inch (25mm) or less.
  - 2. Excessive grooving by cold milling will not be permitted.

### **3.3 CLEANING**

Keep premises free from accumulations of waste materials, rubbish and other debris resulting from work. Remove cold milled material from pavement surface and transport to approved salvage or disposal areas.

- A. Remove tools, construction equipment and machinery and surplus materials.
- B. Restore to their original condition portions of site not designated for alteration by Contract Documents.

**END OF SECTION**

02576-2

**SECTION 02660**  
**WATER DISTRIBUTION SYSTEM**

**PART 1 - GENERAL**

**1.1 SCOPE OF WORK**

- A. The Contractor shall furnish and install a potable water piping system, complete, tested and ready for operation. The work shall also include such connections, reconnections, temporary service and all other provisions in regard to the existing operation and modification as is required to perform the new work. All references to Industry Standards (ASTM, ANSI, AWWA, etc.) shall be to the latest revision unless otherwise stated. Only those materials included in the City of Jacksonville Beach Standard Water and Sewer Specifications, details and testing shall be installed. All materials shall be new unless specifically called for otherwise.
- B. Shop Drawing Submittals
- Complete shop drawings, actual catalog data, brochures and descriptive literature will be required and shall meet the requirements of the City of Jacksonville Beach Water and Sewer Standards. Submittals shall be in accordance with Section 01340: Shop Drawings, Working Drawings, and Samples. The Engineer may at any time require the Contractor to provide a complete detailed shop drawing submittal for any material which may, in the Engineer's opinion, not be in compliance with the City of Jacksonville Beach Water and Sewer Standards.
1. The Contractor shall submit for the approval of the Engineer four (4) copies, plus as many additional copies as he may need for his files of all shop and setting drawings and schedules required for the work.
  2. The Contractor shall submit all drawings and schedules sufficiently in advance of construction requirements to allow ample time for checking, correcting, resubmitting, and rechecking; no claim by the Contractor for delays arising from his failure in this respect shall be allowed.
  3. All shop drawings submitted must bear the stamp of approval of the Contractor as evidence that the drawings have been checked by the Contractor. Any drawings without this stamp of approval shall not be considered and will be returned to the Contractor for resubmission. If documents vary from the requirements of the Contract Documents because of standard shop practice or other reason, the Contractor shall make mention in such letter of variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment; otherwise, the Contractor shall not be relieved of the responsibility of executing the work in accordance with the Contract Documents even though such shop drawings have been approved.
  4. Where a shop drawing is submitted and the Contractor indicates a departure from the Contract which the Engineer deems to be a minor adjustment in the interest of the City and which does not involve a change in Contract Price or extension of time, the Engineer will approve the drawings.
  5. The approval by the Engineer of shop drawings will be general and shall not relieve the Contractor from the responsibility for inherent error which may exist.

**PART 2 – PRODUCTS**

**2.1 MATERIALS**

- A. All material shall be free from defects impairing strength and durability, shall be of the best commercial quality for the purpose specified, and shall have structural properties sufficient to safely sustain or withstand strains and stresses to which it is normally subjected and be true to detail.

B. Pipe

Pipe for potable water lines in sizes up to and including 48 inches shall be ductile iron, or polyvinyl chloride (PVC) as shown on the Drawings and as herein specified. Pipe for potable water lines larger than 48 inches shall be ductile iron. Pipe to be used as a casing in sizes 4 inches and larger shall be welded steel pipe as shown on the Drawings and as herein specified. Pipe to be installed underground shall be push-on joint type. Pipe installed on bridges, piles or other above ground installations shall be restrained joint ductile iron pipe or flanged ductile iron pipe as described in these specifications. PVC pipe shall not be used in above ground applications. Underground pipe shall be furnished in nominal 18 or 20-foot laying lengths unless indicated otherwise on the Drawings. Pipe shall be cut to length as required to fit installation conditions. Pipe sizes and applications shall conform to the following chart.

PIPE	PIPE SIZE	JOINT TYPE	APPLICATION
Ductile Iron	3 inches and larger	Mechanical joint, push-on joint, flanged joint, ball joint, etc.	water mains and services-3 inches & 4 inches for services only
PVC DR 14, DR 18	14 inches thru 48 inches	Push-on joint	water mains and services-4 inches for services only
PVC, DR 14, DR 18 (C900)	4 inches thru 12 inches	Mechanical joint, restrained	Water fire mains / lines
SDR 21 PVC	Smaller than 4 inches	Push-on joint	water mains only
Polyethylene	2 inches and smaller	No joints in pipe	services only
Galvanized	Smaller than 3 inches	I.P.T.	flushing valves and contaminated soil sites
Steel	4 inches and larger	Welded	casing only

1. Ductile Iron Pipe

Ductile iron pipe wall thickness and pressure class shall conform to ANSI Specification ANSI A21.50 (AWWA C150) and ANSI A21.51 (AWWA C151) with pressure class 150 as a minimum. Pipe shall also be certified by ISO 9000 by an accredited registrar. Each length shall be clearly marked with the name of the manufacturer, location of the foundry, pressure rating, thickness or pressure class, nominal pipe diameter, weight of pipe without lining and length. All pipe furnished by the manufacturer shall be cast and machined at one foundry location to assure quality control and provide satisfactory test data. All ductile iron pipes shall be externally coated and internally lined as specified in this section. All ductile iron pipe shall be color coded blue by field painting a blue stripe, 3 inches wide, along the crown of the pipe barrel.

2. Polyvinyl Chloride Pressure Pipe

a. Water mains 4" and larger shall be constructed of Polyvinyl Chloride (PVC) pipe with a dimension ratio (DR) of 18 or 14 suitable for a working pressure of 150 PSI at 73.4 F. Pipe shall conform to AWWA Standard C900 for Polyvinyl Chloride Pressure Pipe, 4" through 12" for water distribution, latest edition or revision. Pipe shall be manufactured to cast iron equivalent diameters. PVC DR 25 pipe shall conform to AWWA Standard C905 for 16 inch pipe. Pipe is to be manufactured to ductile iron pipe equivalent outside diameters.

- b. Water mains and fittings smaller than 4" shall be Polyvinyl Chloride (PVC) pipe SDR 21 PR 200 and shall conform to ASTM D2241, latest revision. The pipe shall have a gasketed bell with rubber ring conforming to ASTM F477. Fittings for 2" water mains shall be compatible with the type pipe specified except for flushing connections which shall use solvent weld fittings. Pipe for flushing connections shall be Polyvinyl Chloride (PVC) pipe, Schedule 40 and shall conform to ASTM D1785.
- c. Fittings for four inch (4") and larger pipe shall be ductile iron and shall conform to the type of pipe being installed. The fittings shall have a minimum working pressure of 150 psi. Fittings shall be cement lined in accordance with AWWA C104/ANSI A21.4 American National standard for Cement- Mortar Lining for Ductile-Iron pipe and Fittings for Water and shall be furnished with an external asphaltic coating.
- d. Buried Warning and Identification Tape: Polyethylene plastic and metallic core or metallic-faced, acid and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, three inch (3") minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.
  - i. Warning Tape Color Codes: Blue (Water Systems)
  - ii. Tape shall be manufactured with integral wires, foil backing, or other means of enabling detection by a metal detector when tape is buried up to three feet (3') deep.
- e. Locate Wire: All water mains shall be provided with 12 gauge continuous wire on top of water main. All 12-gauge wiring shall be terminated inside valve boxes or at a maximum of 475' intervals with a minimum of 36 inches excess wiring rolled up inside the valve box.

3. Steel Casing Pipe (N/A THIS PROJECT)

C. Service Lines

1. Polyethylene Tubing

All services 2 inches and smaller shall be polyethylene tubing. Tubing shall be manufactured of PE 3408, High Density Polyethylene (HDPE), in accordance with AWWA C901, ASTM D1248, ASTM D2239, ASTM D2737 and ASTM D302660. The tubing shall have a minimum working pressure of 200 psi. Polyethylene tubing shall be copper tube size SDR9 and shall be colored blue. HDPE pipe shall have ultraviolet (UV) inhibitors for protection against direct sunlight for 4 years. Inserts for polyethylene tubing shall be 316 stainless steel. Tubing shall be approved for use with potable water by the National Sanitation Foundation (NSF-14) and shall be continuously marked at intervals of not more than two feet with the following:

- a. Nominal size
- b. Pressure rating
- c. NSF seal
- d. Manufacturer's name or trademark
- e. Standard dimension ratio
- f. ASTM specification

D. Fittings

Fittings shall have joints that match the type of pipe furnished except as follows or as otherwise specified. Fittings on 2-inch PVC pipe may be PVC with push-on bell type joint or solvent weld. Fittings 3-inches and larger on push-on joint pipe installed underground shall be ductile iron with mechanical joint ends or PVC with restrained push-on bell type joint. Fittings 3 inches and larger installed above ground shall be ductile iron with flanged ends or restrained joints unless shown otherwise on the drawings. Fittings for fire hydrant laterals shall be ductile iron, including tee to lateral.

FITTING MATERIAL	FITTING SIZE	JOINT TYPE
Ductile Iron	3 inches and larger	mechanical joint, flanged joint, ball joint
PVC DR18	4 inch through 12 inch	push on joint; restrained joint
SCH 40	2 inches only	solvent weld
SCH 80	2 inches only	solvent weld, threaded
SDR 21	2 inches only	push on joint
Polyethylene	2 inches only	butt fused, compression joint
Galvanized	2 inches only	I.P.T.

1. Ductile Iron Fittings

Ductile iron fittings shall have a minimum working pressure of 150 psi. Fittings shall conform to ANSI Specification A21.10 (AWWA C110), A21.11 (AWWA C111), A21.15 (AWWA C115) and/or A21.53 (AWWA C153). Fittings shall also be certified by ISO 9000 by an accredited registrar. Compact fittings shall normally be installed. Long body fittings shall be used where the Drawings specifically call for long body fittings, where compact fittings are not available, or at the option of the Contractor when the laying length is not controlled by compact fitting patterns. All fittings shall be UL/FM approved and shall conform to NSF Standard 61 as applicable. All fittings furnished by the approved manufacturer shall be cast and machined at one foundry location to assure quality control and provide satisfactory test data. Fittings shall have cast on them the pressure rating, nominal diameter of openings, manufacturer's name, foundry location, plant code and degrees or fraction of the circle. Cast letters and figures shall be on the outside body of the fitting. The City may require random ductile testing of manufacturer's fittings. All ductile iron fittings shall be externally coated and internally lined as specified in this section.

- a. Ductile iron Integral Restraint Joint (IRJ) fittings in sizes 4" through 12" shall meet or exceed the applicable standards cited in this specification. Fittings shall be manufactured of ductile iron (65.45.12) and shall conform to the material and performance requirements of ANSI/AWWA C153/A21.53. Fittings shall be designed for use on ductile iron pipe conforming to ANSI/AWWA C151/A21.51 and PVC pipe conforming to AWWA C900. All fittings shall be provided with integral restraint joints and have seals conforming to ASTM F 477 and the physical testing requirements of AWWA C111. All fittings shall be internally and externally coated as described in paragraph 2.1F. Assembly of fitting joints shall not require beveling of the plain end of a cut pipe and shall not require the use of jacks or power equipment to force the pipe end past the gasket. Fittings shall be manufactured by (Ebba Iron Restrainers, Uni-flange, or Mega-lugs.), or engineer approved equal.

2. Polyvinyl Chloride Fittings

Fittings that are 2-inch may be PVC with push-on bell type joint or PVC with solvent weld joints as outlined in chart of Section 2.1D. Fittings that are 4 inch and larger shall be restrained push on bell joint. Restraints shall be in accordance with this specification regarding installation and material. The fittings shall conform to the appropriate sections of these specifications for PVC pipe and PVC pipe joints.

a. PVC 1120, Class 150, DR18 Fittings

Fittings shall be PVC injection molded, made from materials meeting or exceeding the requirements of cell class 12454-B material as defined in ASTM D1784. All PVC fittings must comply with, or exceed, AWWA C907. All fittings must be designed to the pressure class of DR18, with a pressure rating of 150 psi and a 2.5 to 1 factor of safety. Virgin materials only shall be used in the manufacture of PVC pressure fittings. These fittings must have UL-FM approval and shall comply with or exceed all ASTM Standards for PVC fittings. All fittings must have NSF-61 approval. The elastomeric gasket shall comply with the requirements specified in ASTM F477 and shall be attached to the bell utilizing glue (AWWA and manufacturer approved type) or rieber ring.

b. PVC 1120, SDR 21, Fittings

SDR 21 fittings shall be injection molded, push on bell type with electrometric rubber seals in accordance with ASTM D3139. Seals shall conform to ASTM F477.

c. PVC 1120, Schedule 40 And Schedule 80 Fittings

Schedule 40 and schedule 80 fittings shall have solvent weld joints and shall be in accordance with ASTM D2672.

d. Polyethylene Fittings

All polyethylene fittings shall comply with NSF-14 requirements. All fittings and couplings shall be thermoplastic nylon 6/6 material suitable for working pressure of 200 psi. Joints on all thermoplastic fittings shall be compression type with 360-degree restraint or threaded as required for a complete installation.

3. Nonstandard Fittings and Wall Castings (N/A THIS PROJECT)

4. Tapping Sleeves

a. Stainless Steel

Stainless steel tapping sleeves shall be used on 4 inch pipe and larger. Stainless steel tapping sleeves shall be all 304 stainless steel, including flanges, bolts and nuts and shall be rated for 150 psi minimum operating pressure and 200 psi minimum test pressure. The tapping sleeve shall have a pilot flange recessed for tapping per MSS SP-60. The pilot flange shall be pressure rated Class D according to AWWA C207 with 125 pound drilling conforming to ANSI B16. Each sleeve shall be supplied with a flange gasket bonded to the flange. The body gasket shall be a full circle, grid pattern, covering the entire length of the sleeve, cloth reinforced, with attached stainless steel bridge to support the gasket at the lugs. The gasket shall be made of SBR rubber or similar material, compounded for use with water, salt solution, mild acids, bases and sewage. The sleeve shall have a 3/4 inch NPT bronze or stainless steel test plug. All welds shall conform to ASTM A380 and shall be fully passivated.

- E Joints: Type of joint used shall be approved by the Engineer prior to installation. Joints shall be made in accordance with approved printed instructions of the manufacturer, and shall be absolutely watertight.
1. Mechanical Joints

All jointing materials for mechanical joints shall be provided by the pipe and/or fitting manufacturer. Material assembly and bolting shall be in accordance with ANSI Specification A21.11 (AWWA C111). All glands shall be made of ductile iron only.
  2. Push-On Joints
    - a. Ductile Iron

Push-on joints shall be in accordance with ANSI Specification A21.11 (AWWA C111). All joint material shall be provided by the pipe manufacturer and installation shall be in accordance with the manufacturer's recommended practice.
    - b. Polyvinyl Chloride (PVC)

PVC pipe joints shall be the manufacturer's standard push-on bell type with rubber sealing ring in accordance with ASTM D3139. Electrometric gaskets shall conform to ASTM F477.
  3. Ball and Socket Joints (N/A THIS PROJECT)
  4. Flanged Joints

Ductile iron flanged joints shall conform to ANSI A21.10 (AWWA C110) and ANSI A21.15 (AWWA C115). Flanges shall be in accordance with ANSI Specification B16.1, Class 125 with any special drilling and tapping as required to insure correct alignment and bolting. Screwed flanges shall be screwed in tight at the foundry by machine before they are faced and drilled. Flanges for flanged joints and flanged specials shall be integrally cast at right angles to the axis, accurately faced, and drilled smooth and true. Gaskets shall be rubber ring type, cloth inserted, minimum thickness of 1/8 inch and shall be used on all flanges. The entire gasket, including the retainer and sealing ring, shall be one continuous piece. Retainers glued together will not be accepted. Flanged joints shall be made with bolts, bolt studs with a nut on each end, or studs with nuts where the flange is tapped. The number and size of bolts shall conform to the same ANSI standard as the flanges. All flange bolts and nuts shall be 316 stainless steel. Bolt studs shall be of the same quality as machine bolts. Bolts shall be tightened so as to distribute evenly the stress in the bolts and bring the pipe in alignment. The Contractor shall provide suitable filling rings where the layout of the flange piping is such as to necessitate their use. In materials, workmanship, facing and drilling, such rings shall conform to ANSI B16.1 Class 125.
  5. Machined Surfaces

Machined surfaces shall be cleaned and coated with a suitable rust preventive coating at the shop immediately after being machined.
  6. Steel Casing Pipe Joints (N/A THIS PROJECT)

Steel casing pipe joints shall be electric fusion (arc) welded by operators whose qualifications meet the requirements of the American Welding Society Standard procedures and in conformance with AWWA C206.
  7. Polyvinyl Chloride Solvent Weld Joints

Pipe joints for schedule 40 or schedule 80 pipe shall be solvent weld joints. The solvent cement shall comply with ASTM D2564. The joint shall be made in accordance with ASTM D2855. The joint shall conform to ASTM D2672.
  8. Polyethylene Joints

Polyethylene joints shall be butt-fused, done with polyethylene fittings or brass compression

fittings.

9. Restrained Joints

a. Restrainers

The restrainer shall be manufactured of ductile iron and shall meet or exceed all the requirements of ANSI A21.11 (AWWA C111) and ASTM A536. The restrainer system shall provide anchoring of PVC pipe to mechanical joint fittings or bell to spigot PVC pipe joints. Restraints shall provide a full 360 degree contact with sufficient gripping action to secure the clamp to the pipe and be designed so that restraint action is increased as a result of increases in line pressure. The restrainer shall accommodate the full working pressure rating of the pipe plus surge allowance.

b. Retainer Glands

Retainer glands shall be manufactured of ductile iron grade 64-42-10, ASTM A536 or the pre-approved equal and shall be designed to fit standard mechanical joint bells conforming to applicable sections of ANSI A21.10 (AWWA C110), ANSI A21.11 (AWWA C111) and ANSI A21.53 (AWWAC153). The restraining device shall be rated for the full working pressure of the pipe type used including surge allowance and a 2:1 safety factor. Mechanical restraints shall include a restraining mechanism which, when actuated, imparts a wedging action against the pipe, increasing its resistance as the pressure increases. The restraint shall be compatible with the type of joint being installed. The joint deflection shall not exceed 80% of the pipe manufacturer's recommended maximum deflection. Deflection, if necessary shall be made before tightening the set screws. Bolts and set screws shall be tightened alternately, 180 degrees apart, to the torque recommended by the manufacturer. Retainer glands having set screws that make point contact with the pipe without using a pad to disperse point loading shall not be used on PVC pipe. The restraining device shall not damage or lower the working pressure of the pipe installed. Retainer glands shall be either EBBA Iron or Uniflange.

10. Flange Adapters

Flange adapters shall be ductile iron manufactured to ASTM A536 standards. Bolt circles and bolt holes shall meet ANSI B16.1 for 125 pounds. Adapter flanges shall meet or exceed all test requirements of AWWA C900, ASTM D2241 and ASTM D1599.

11. Pipe Couplings

The Contractor shall furnish and install pipe couplings as required to complete the work. Pipe couplings used to join two pieces of ductile iron pipe or PVC pipe shall be sized to match the outside diameter of the pipeline. Transition couplings shall be used to join pipes of different outside diameters. The coupling sleeve shall be manufactured of ductile iron conforming to ASTM A536 and be coated with 14 mils of epoxy. The bolts shall be manufactured of a metal of high corrosion resistance and shall conform to ANSI 21.11 (AWWA C111). Gaskets shall be wedge-type and manufactured of virgin SBR for water and sewer service. The installation of all couplings shall be in accordance with manufacturer's recommendations. After installation, all coupling surfaces including bolts and nuts shall be coated with an approved coating as specified in this section of these specifications. Couplers and adapters for polyethylene pipe shall be brass conforming to AWWA C800 and shall be female IPT, pack joint or compression nut.

12. Full Circle Repair Clamps

Full circle repair clamps shall have type 304 stainless steel shells, lugs, bolts, nuts and washers as per ASTM A193, A194, A240, or shall have type 304 stainless steel shells per ASTM A240, ductile iron lugs as per ASTM A536, and 304 stainless steel bolts, washers and nuts. Gaskets for both types shall be virgin SBR as per ASTM D2000 for water and sewer service.

F. Corrosion Protection for Ductile Iron Pipe

1. Interior Lining

The interior of all ductile iron pipe, fittings and specials shall be thin cement lined. The lining shall comply with ANSI Standard A21.4 (AWWA C104).

2. Exterior Coating

All ductile iron pipe and fittings except on bridges, in other above ground installations, or as otherwise noted, shall receive an exterior bituminous coating as specified in ANSI A21.51. The finished coating shall be continuous smooth, neither brittle when cold nor sticky when exposed to the sun, and be strongly adherent to the fitting. All bolts, nuts, studs and other uncoated parts of joints for underground installation shall be coated with asphalt or coal-tar prior to backfilling. Pipes crossing under ditches, culverts, rivers, creeks, etc., shall be considered as buried pipe. All ductile iron pipe shall be color coded blue by field painting a blue stripe, 3 inches wide, along the crown of the pipe barrel. Exterior of all above ground ductile iron pipe and fittings shall be primed for painting. There shall not be any bitumastic or coal tar type coating on the exterior of the above ground pipe and fittings.

3. Polyethylene Wrap (N/A THISPROJECT)

a. Material

The polyethylene material shall meet or exceed the requirements of AWWA C105 in all respects. The wrap shall be virgin, high density polyethylene, 4 mils thick minimum. The polyethylene wrap shall be white with 2 each, 6 inch wide, continuous blue tapes located at the 2:00 and 10:00 o'clock position on the pipe.

b. Installation

Although not intended to be a water-tight enclosure, the polyethylene shall prevent contact between the pipe and the surrounding backfill. Installation shall be done according to one of the methods described in AWWA C105, subject to approval by the Engineer and the manufacturer.

G. Piping Supports (NOT USED)

1. Casing Spacers (NOT USED)

H. Material Warranty

The manufacturer of materials furnished on the project shall supply to the City of Jacksonville Beach, a one (1) year unconditional warranty. The warranty shall be limited to the material which shall constitute complete replacement and delivery to the site of materials only to replace defective materials with new materials conforming to the specifications. This warranty is contingent upon determination of failure by a private independent testing laboratory. The testing shall prove that the failure was caused by failure of the material. The testing laboratory shall be selected by and agreed upon by both parties involved. This warranty is in addition to any warranty required for pipe linings herein before specified.

I. Material Testing

The City of Jacksonville Beach requires all materials furnished to conform to the following standards. The entire product of any manufacturer or of any one part may be rejected when, in the opinion of the City of Jacksonville Beach, the methods of manufacture fail to secure uniform results acceptable to the requirements of these specifications. Pipe and materials shall be tested in, and for conformity with, the latest editions of the following:

<u>Item</u>	<u>Specifications</u>
Ductile Iron Pipe and Fittings	ANSI A21.50 (AWWA C150) ANSI A21.51 (AWWA C151)

	ANSI A21.53 (AWWA C153)
Polyvinyl Chloride Pipe and Fittings	ASTM D1598 ASTM D1599 ASTM D1784 ASTM D1785 ASTM D2122 ASTM D2241 ASTM D2564 ASTM D2672 ASTM D2837 ASTM D2855 ASTM D3139 ASTM F477 AWWA C900 AWWA C905 AWWA C907
Polyethylene Tubing	ASTM D1248 ASTM D2239 ASTM D2737 ASTM D302660 AWWA C901

J. Water Meter Boxes:

Water meter boxes shall be manufactured by GlasMasters Jacksonville, FL. One Inch Water Meter Boxes shall be 11" x 18" in size with Reader Lid 4 x 7, hinged, Part No S1118RN Access Cover. Enclosures shall be flared with mouse holes Part No S111812F2N. One and a half inch or Two Inch Water Meter Boxes shall be 15" x 27" in size with Reader Lid 4 x 7, hinged, Part No S1527RN Access Cover. Enclosures shall be flared with mouse holes Part No S152712F2N. For applications where water meter box is to be placed in the sidewalk or grassed areas Load Rating to be TIER 8. For applications where water meter box is to be placed in a parking area Load Rating to be TIER 15.

**PART 3 - EXECUTION**

**3.1 REFERENCE POINTS AND LAYOUT**

- A. The Contractor shall be responsible for setting all grade, lines and levels. The Contractor or Contractor's Surveyor will provide centerline of construction; the engineer will provide a reference benchmark. Any reference points, points of intersection, property corners, or bench marks, which are disturbed during construction, shall be restored by a Land Surveyor registered to practice in the State of Florida, and all costs thereof shall be borne by the Contractor. The Contractor shall assume all responsibility for the correctness of the grade and alignment stakes.

**3.2 HANDLING AND CUTTING PIPE**

- A. Every care shall be taken in handling and laying pipe and fittings to avoid damaging the pipe, scratching or marring machined surfaces, and abrasion of the pipe coating. Any fitting showing a crack and any fitting or pipe which has received a severe blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. In any pipe showing a distinct crack in which it is believed there is no incipient fracture beyond the limits of the visible crack, the cracked portion, if so approved by the City of Jacksonville Beach, may be cut off before the pipe is laid so that the pipe used shall be perfectly sound. The cut shall be made in the sound barrel at a point at least 12 inches from the visible limits

of the crack. Except as otherwise approved, all cutting shall be done with a power driven cut off saw. All cut ends shall be examined for possible cracks caused by cutting.

### 3.3 PIPE INSTALLATION

#### A. General Requirements

Water mains shall be constructed of the materials specified and as shown on the drawings. All PVC C900/C905 pipe shall be laid in accordance with AWWA C605. Pipe and fittings shall be carefully handled to avoid damage, and if feasible, while they are suspended over the trench before lowering, they shall be inspected for defects and to detect cracks. Defective, damaged or unsound pipe or fittings shall be rejected. Each section of the pipe shall rest upon the pipe bed for the full length of its barrel, with recesses excavated to accommodate bells and joints. Any pipe which has its grade or joint disturbed after laying shall be taken up and re-laid. All precautions shall be taken to prevent sand or other foreign material from entering the pipe during installation. If necessary, a heavy, tightly woven canvas bag of suitable size shall be placed over each end of the pipe before lowering into the trench and left there until the connection is made to the adjacent pipe. Any time the pipe installation is not in progress, the open ends of pipe shall be closed by a watertight plug or other method approved by the Engineer. Plugs shall remain in pipe ends until all water is removed from the trench. Any sand or foreign material that enters the pipe shall be removed from the pipe immediately. No pipe shall be installed when trench conditions (standing water, excess mud, etc.) or the weather (rain, etc.) is unsuitable for such work, except by permission of the Engineer. Any section of pipe already laid which is found to be defective or damaged shall be replaced with new pipe.

#### B. Pipe Cover

The cover over all piping shall be a minimum of 30 inches in unpaved areas and 36 inches in paved areas with a maximum of 60 inches unless specifically approved otherwise. Cover for pipe under pavement shall be measured from the finished grade. Any reduction in pipe cover will require approval from the City of Jacksonville Beach and the Engineer. Greater depths will be permitted where required to miss obstructions only. Lines shall be located as shown on the drawings. The Contractor shall investigate well in advance of pipe laying any conflicts which may require readjustments in planned locations and advise the Engineer of the results of these investigations so that the Engineer may give instructions as to the modifications required. Refer to Section 02200 for backfill and compaction requirements.

#### C. Installation of Iron Piping

All iron pipe and fittings shall be laid in accordance with the pipe manufacturer's recommendations and the American Water Works Association Specification AWWA C600.

#### D. Thrust Restraint

1. All non-flanged fittings and valves shall be restrained using one of the following methods:

- a. Mechanical restraint at fittings and valves and mechanical restraint along adjacent joints of pipe to a length as specified in the following table.

All Mechanical Joint Fittings must be restrained using either EBBA Iron Restrainers, Uni-flange, or Mega-lugs. Rod restraints will be approved on an individual basis only.

No thrust blocks will be used without prior approval of City of Jacksonville Beach Public Works Department.

**CHART "F"**

<b>MINIMUM LENGTH TO BE RESTRAINED ON EACH SIDE OF FITTING (FEET)</b>									
<b>NOMINAL PIPE SIZE (INCHES)</b>	<b>11 1/4° Horizontal Elbow</b>	<b>22 1/2° Horizontal Elbow</b>	<b>45° Horizontal Elbow</b>	<b>90° Horizontal Elbow</b>	<b>Horizontal Tees</b>	<b>Horizontal Plugs and Valves</b>	<b>45° Vertical Offset Upper length/low per length</b>	<b>22½° Vertical Offset Upper length/low per length</b>	<b>Reducer (to 1 size smaller) Length on Larger Size Side</b>
4	2	4	8	20	20 - run 1 - branch	50	20/3	8 / 1	n/a
6	2	5	10	28	20 - run 1 - branch	70	28/4	11 / 2	28
8	3	6	14	36	20 - run 1 - branch	90	36/5	14 / 3	30
10	4	8	18	40	20 - run 1 - branch	110	45/6	17 / 3	29
12	4	9	20	50	20 - run 1 - branch	120	52/8	20 / 4	50
14	5	10	23	56	20 - run 10 -branch	140	60/9	23 / 4	30
16	6	11	26	60	20 - run 26 -branch	160	67/10	26 / 5	30
18	6	12	29	69	20 - run 41 -branch	180	74/12	29 / 5	29
20	7	13	32	75	20 - run 55 -branch	195	80/13	36 / 6	29
24	7	15	33	76	20 - run 58 -branch	200	81/14	37 / 7	55
30	9	18	36	88	20 - run 77 -branch	235	97/16	44 / 8	77
36	10	20	40	100	20 - run 115 - branch	270	110/20	51 / 10	77

NOTE: Table assumptions: PVC pipe, Safety Factor = 1.5, Soil = GM or SM, 3 ft. bury depth to top of pipe, trench type 3, branch on tee is one size smaller than run of tee size and 20 feet of pipe is installed past the tee on the run side (smaller branch sizes must be calculated by the engineer). Vertical offsets are 3 feet deep on top and 8 feet deep on bottom. Reducers are calculated for one size reduction. Test pressure of 150 psi.

The use of thrust blocks shall be limited to situations such as point repair where exposing several joints of pipe is not feasible due to existing ground conditions and also must be used with mechanical joint restraining devices when, in the judgment of the Engineer, the nature and criticality of an

installation is such as to require positive assurance of stability. Concrete collars with tie rods may be used on dead end lines at the Contractor's discretion.

Concrete used for this purpose shall be 2,500 psi minimum. When applicable, schedule and details for the required thrust blocks are included on the drawings. The use of thrust blocks will only be approved by the City of Jacksonville Beach for special conditions.

2. Joint Restraints within Carrier Pipe (N/A THIS PROJECT)

3. Casing Spacer Installation (N/A THIS PROJECT)

E. Water Main and Non-Water Main Separation Requirements

1. Horizontal Separation between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, Reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems.

a. New or relocated, underground water mains shall be laid to provide a horizontal distance of at least three feet between the outside of the water main and the outside of any existing or proposed storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62- 610, F.A.C.

b. New or relocated, underground water mains shall be laid to provide a horizontal distance of at least three feet, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed vacuum-type sanitary sewer.

c. New or relocated, underground water mains shall be laid to provide a horizontal distance of at least six feet, and preferably ten feet, between the outside of the water main and the outside of any existing or proposed gravity-or pressure-type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C. The minimum horizontal separation distance between water mains and gravity-type sanitary sewers shall be reduced to three feet where the bottom of the water main is laid at least six inches above the top of the sewer.

d. New or relocated, underground water mains shall be laid to provide a horizontal distance of a least ten feet between the outside of the water main and all parts of any existing or proposed "on-site sewage treatment and disposal system" as defined in Section 381.0065 (2), F.S., and Rule 64E-6.002, F.A.C.

2. Vertical Separation between Underground Water Mains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, and Reclaimed Water Pipelines

a. New or relocated, underground water mains crossing any existing or proposed gravity-or vacuum-type sanitary sewer or storm sewer shall be laid so the outside of the water main is at least six inches, and preferably twelve inches, above or at least twelve inches below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline.

b. New or relocated, underground water mains crossing any existing or proposed pressure-type sanitary sewer, wastewater or storm water force main, or pipeline shall be laid so the outside of the water main is at least six inches, and preferably twelve inches, above or at least twelve inches below the outside of the other pipeline. However, it is preferable to lay the water main above the other pipeline. However, it is preferable to lay the water main above the other pipeline.

c. At the utility crossings described in paragraphs (a) and (b) above, one full length of water main pipe shall be centered above or below the other pipeline so the water main joints will be as far as possible from the other pipeline. Alternatively, at such crossings,

the pipes shall be arranged so that all water main joints are a least three feet from all joints in vacuum-type sanitary sewers, storm sewers, stormwater force mains, or pipelines conveying reclaimed water regulated under Part III of Chapter 62- 610, F.A.C., and at least six feet from all joints in gravity or pressure type sanitary sewers, wastewater force mains, or pipelines

3. Separation between Water Mains and Sanitary or Storm Sewer Manholes.

- a. No water main shall pass through, or come into contact with, any part of a sanitary sewer manhole.
- b. Effective August 28, 2003, water mains shall not be constructed or altered to pass through, or come into contact with, any part of a storm sewer manhole or inlet structure. Where it is not technically feasible or economically sensible to comply with this requirement (i.e., where there is a conflict in the routing of a water main and a storm sewer and where alternative routing of the water main or the storm sewer is not technically feasible or is not economically sensible), the Department shall allow exceptions to this requirement (i.e., the Department shall allow construction of conflict manholes), but suppliers of water or persons proposing to construct conflict manholes must first obtain a specific permit from the Department in accordance with Part V of this chapter and must provide a preliminary design report or drawings, specifications, and design data accompanying their permit application the following information:
  - i. Technical or economic justification for each conflict manhole.
  - ii. A statement identifying the party responsible for maintaining each conflict manhole.
  - iii. Assurance of compliance with the design and construction requirements in sub-subparagraphs i. through iv. below.
- c. Conflict Manhole:
  - i. Each water main passing through a conflict manhole shall have a flexible, water tight joint on each side of the manhole to accommodate differential settling between the main and the manhole.
  - ii. Within each conflict manhole, the water main passing through the manhole shall be installed in a watertight casing pipe having high impact strength (i.e., having an impact strength at least equal to that of 0.2 inch thick ductile iron pipe).
  - iii. Each conflict manhole shall have an access opening, and shall be sized, to allow for easy cleaning of the manhole.
  - iv. Gratings shall be installed at all storm sewer inlets upstream of each conflict manhole to prevent large objects from entering the manhole.

4. Separation between Fire Hydrant Drains and Sanitary or Storm Sewers, Wastewater or Stormwater Force Mains, Reclaimed Water Pipelines, and On-Site Sewage Treatment and Disposal Systems.

New or relocated fire hydrants with underground drains shall be located so that the drains are at least three feet from any existing or proposed storm sewer, stormwater force main, or pipeline conveying reclaimed water regulated under Part III of Chapter 62-610, F.A.C.; at least three feet, and preferably ten feet, from any existing or proposed vacuum-type sanitary sewer; at least six feet, and preferably ten feet, from any existing or proposed gravity or pressure type sanitary sewer, wastewater force main, or pipeline conveying reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.; and at least ten feet from any existing or proposed

“on-site sewage treatment and disposal system” as defined in Section 381.00665(2), F.S., and Rule 64E-6.002, F.A.C.

F. System Connections

All connections and ties to the City of Jacksonville Beach Water System and transfer of services will be performed by the Contractor under supervision of the City of Jacksonville Beach’s representative.

1. Water Main Connections

Tapped connections in the barrel of a pipe shall be less than the diameter of pipe being tapped except 4 inch pipe which may be tapped with a 4 inch tapping sleeve and valve. No taps shall be made within 5 feet of a joint. When making 2 inch PVC water main connections to water mains, a flexible connection shall be made using 2 inch polyethylene pipe one foot long (minimum). The polyethylene pipe shall tie to the existing water main and then tie to the new 2 inch PVC water main. There shall be a stainless steel nipple between saddle and valve on 2 inch water main connections.

2. Water Service Connections

Water services to be Polyethylene – Orangeburg #4-05110, 3406 or Drisco pipe 3408, 5100 ultra-line. All long and short side water services are to be one inch (1”).

G. Field Testing

1. Disinfection Tests

a. All water pipe and fittings of whatever size and wherever installed on potable water lines shall be thoroughly disinfected prior to being placed in service. Disinfection shall follow the applicable provisions of the procedure established for the disinfection of water mains as set forth in AWWA Standard C651 entitled "AWWA Standard for Disinfecting Water Mains".

Temporary blow-offs, shall be installed for the purpose of clearing the water main. Blow-offs installed on water mains up to and including 12 inches shall be the same diameter as the water main. Blow-offs installed on 16 inch water mains and larger shall be the next smaller size, in diameter, than the water main being tested. Temporary blow-offs shall be removed and plugged after the main is cleared. The City of Jacksonville Beach Representative shall be present prior to and during the operation of blow- offs. The main shall be flushed prior to disinfection.

The new water main shall be connected to the existing water main at one point only for flushing purposes (no looping). The new main MUST have a blow off on the end as required previously. After the new main is thoroughly flushed, the open end shall be sealed and restrained and the main shall be thoroughly disinfected as specified.

The contractor may use a separate source of water for flushing purposes. Upon completion of the flushing, the contractor shall proceed with disinfection as specified.

Anytime the new line is reopened (to repair defective joints or pipe, defective fitting or valve) the complete disinfection process shall be repeated.

Once bacteriological clearance (on 2 days of samples) has been approved, the main may be pressure tested against an existing system valve.

No new water main may be put in service until a Certification of Completion has been approved by the Florida Department of Environmental Protection (FDEP). The contractor must supply to the Engineer FDEP acceptable record drawings or As-Builts, accurately depicting installed conditions for the Certification of Completion. The Contractor shall allow time for this process to be completed.

2. Leakage and Pressure Tests

See 15045 Pressure Testing

3. Locate Wiring Testing

Installed locate wiring shall be tested by the contractor with an approved testing company using approved equipment. Locate wire testing company must be provided a copy of the As-Builts.

H. Inspection

All pipe and fittings shall be subject to inspection at time of delivery and also in the field just prior to installation. All pipe and fittings which in the opinion of the Engineer do not conform to these specifications will be rejected and shall be removed by the Contractor at the Contractor's expense. An authorized City of Jacksonville Beach representative must be present for all pressure and leakage testing, connections to the City's existing lines and the collection of water samples. The City of Jacksonville Beach representative will pull the water samples and deliver them to the lab.

I. State Highway Crossings

Permits for all work within the right-of-way of a State Highway will be obtained by the Engineer. The Contractor shall, however, verify the existence of the permit before commencing work in this area. All work related to the State Highway crossing shall be in full compliance with the requirements of the Florida Department of Transportation permit and in accordance with the Florida Department of Transportation Utility Accommodation Guide and standard specifications. Unless otherwise shown on the drawings or specified herein, State Highway crossings shall be made by jacking a steel pipe casing, of the size shown on the drawings and shown in the City of Jacksonville Beach Standard Details, under the highway at the elevations and locations shown. The water main shall then be placed in the casing with approved casing spacers as specified in this section. All joints within carrier pipe shall be mechanically restrained joints. After inspection, the ends of the casing shall be filled with 2500 psi concrete not less than 8 inches thick.

J. Railroad Crossings (N/A THIS PROJECT)

K. Locate Wiring

Contractor shall furnish and install #12 copper locate wiring and warning tape on all PVC water mains and polyethylene and PVC water services installed. Locate wire on services shall be limited to a continuous loop of wire extending 3 feet along the service from the main. Locate wire must be attached to water mains and services with plastic zipper type ties at each side of bell joint or fitting and at 10-foot intervals along pipeline. Locate wire shall be brought to within 8 inches of grade within a valve box or water meter box flush with finished surface with 36 inches of locate wire rolled up inside box at 475 foot intervals. Locate wire shall be installed in box and along pipeline as detailed in the City of Jacksonville Beach Standard Details. Locate wire shall be installed in either the 1:00 or 11:00 position on the pipe. Locate wire shall be attached to intersecting ductile iron or galvanized pipeline using a three way splice and brass split ground clamp with wire installed around brass nipple. Locate wiring must have the ability to conduct an electrical current; therefore, the wiring must be continuous without any breaks in the line spliced as per the City of Jacksonville Beach Standard Details. Locate wire shall be spliced with the City of Jacksonville Beach approved wire connectors.

L. New Water Services

New water services shall be furnished and installed in the sizes and locations indicated on the Contract documents. Short services shall be services installed on the same side of the road as the water main. Long services shall be services installed on the opposite side of the road as the water main. Typically water services for City of Jacksonville Beach projects will be installed by the jack & boring or underground piercing tool method. No open cutting of roadway will be allowed for water services.

M. Renewal and Transfer of Water Service

1. General

Where a new water main is installed or where an existing water main is relocated or replaced, as shown on the drawings or where necessary due to a direct conflict with proposed construction and when approved by the Engineer, the Contractor shall install new piping from the water main to each existing water meter.

2. Service Line Size

Service lines and component parts thereof shall be sized based on the existing meter size as follows:

SINGLE METER SERVICES		
Meter Size	Service & Tap Size	Curb Stop Size
3/4"	1"	1"
1"	1"	1"
1-1/2"	1-1/2"	1-1/2"
2"	2"	2"

N. Contractor Warranty

The Contractor shall supply to the City of Jacksonville Beach a one (1) year unconditional warranty. The warranty shall include materials and installation and shall constitute complete replacement and delivery to the site of materials and installation of same to replace defective materials or defective workmanship with new materials/workmanship conforming to the specifications.

**END OF SECTION**

**SECTION 02661  
WATER VALVES & APPURTENANCES**

**PART 1 - GENERAL**

**1.1 SCOPE OF WORK**

- A. The Contractor shall furnish, install, joint, and test all gate valves, butterfly valves, check valves and other special valves and appurtenances as shown on the drawings and herein specified. All references to Industry Standards (ASTM, ANSI, AWWA, etc.) shall be to the latest revision unless otherwise stated. Only those materials included in the City of Jacksonville Beach Water and Sewer Standards, Details and Materials Manual shall be installed. All materials shall be new unless specifically called for otherwise.

**1.2 ROTATION OF OPENING**

- A. All valves larger than two inches installed within a water system to be the City of Jacksonville Beach owned shall open by turning to the left or counter-clockwise, when viewed from the stem.

**1.3 EXTENSION STEMS**

- A. Where extension stems are required substantial, adjustable wall brackets and extension stems shall be furnished and located as directed. Extension stems shall be provided on all buried valves when the operating nut is deeper than 30 inches below the final grade. Sufficient stem extension shall be provided so that the nut will be no more than 30 inches below finished grade.

**1.4 PAINTING OF VALVES AND VALVE BOX LIDS**

- A. The top side of all water valve box covers shall be painted blue except for gate valves at fire hydrants. Top of valve box covers at fire hydrants shall be painted yellow. Oil based, traffic-rated paint shall be used.

**1.5 HYDROSTATIC AND LEAKAGE TEST**

- A. The Contractor shall be required to perform a separate hydrostatic/leakage field test on each valve installed to insure it is bubble tight. The duration of this test shall be 15 minutes at 150 psi and conform to AWWA C504. The method of performing this test shall be left up to Contractor with the Engineer's approval. The failure of the valve to perform will result in its removal from the job site and replacement by the Contractor at the contractor's expense.

**1.6 LOCATING MARKERS FOR VALVES**

- A. A 'V' cut shall be carved in the curb closest/adjacent to a below grade valve. This 'V' cut shall be painted blue.

**PART 2 - PRODUCTS**

**2.1 GATE VALVES**

- A. General
  - 1. Gate valves 3 to 12 inches in diameter shall be designed for 200 psi minimum working pressure. Valves over 12 inches in diameter shall be designed for 150 psi minimum working pressure.

When full open, gate valves shall have a clear waterway equal to the nominal diameter of the pipe. The operating nut or wheel shall have an arrow cast in the metal indicating the direction of opening. Each valve shall have the manufacturer's distinctive marking, pressure rating and year of manufacture cast on the body. Prior to shipment from the factory, each valve shall be tested by applying to it a hydraulic pressure equal to twice the specified working pressure. Gate valves shall be iron body, fully bronze mounted, single disc, double seat, tapered wedge type, except as noted otherwise herein and unless otherwise called for on the plans. The valves shall conform to AWWA C500 (latest), Specifications for Gate Valves for Ordinary Water Works Service with an "O" ring seal of standard manufacture.

2. Gate valves two inches (2") and smaller shall be bronze body, inside screw, with non-rising stem, solid wedge, 200 PSI cold water non-shock rating and open by turning to the left. Valve shall be Walworth No: 4, Powell No: 507, or approved equal.
3. Valves sixteen inches (16") in diameter and larger shall contain enclosed gears and also an enclosed worm geared type position indicator. Valves sixteen inches (16") in diameter and larger for vertical buried installation shall be furnished with enclosed spur gearing. Valves for horizontal installation shall be furnished with enclosed beveled gearing. Exposed valves shall have open gearing.
4. Gate valves three inches (3") through twelve inches (12") shall be Clow, M & H, American Flow Control, Mueller or approved equal; and gate valves fourteen inches (14") and larger shall be Clow, M & H, American Flow Control, Mueller or approved equal.

**B. Buried Valves**

Buried gate valves shall be iron body bronze mounted, rubber encapsulated, resilient seat, solid wedge, non-rising stem type with operating nuts and adjustable valve boxes and covers. Operating nuts shall be two inches square. Resilient seat gate valves shall conform to applicable sections of AWWA Standards C509 resilient seat. All gate valves 20 inches or larger must be bevel geared for both horizontal and vertical installations. All valves shall be installed vertically unless additional depth of bury is impossible due to physical obstructions. Where depth of cover does not permit, the valves shall be mounted horizontally and fitted with rollers, scrapers and tracks. Tracks shall be stainless steel. Provide cleanout on each side of bonnet. Gate valves shall open counterclockwise.

**C. Above Ground Valves**

Gate valves located above ground or inside structures shall be hand wheel operated, rising stem type with flanged ends and be of the same general construction as buried valves.

**D. Valve Joints**

All gate valves shall have mechanical joint ends, flanged ends, or screw joints to fit the pipe run in which they are used, except valves installed on push-on joint pipe shall have mechanical joint ends unless otherwise specified.

**2.2 MISCELLANEOUS VALVES AND APPURTENANCES**

**A. Tapping Valves**

**1. General**

Tapping valves shall be iron body, bronze mounted gate valves, non-rising stem, open left, resilient seat, 2 inch square operating nut, for vertical mounting in approximately level setting on

buried water lines. The valve ends shall be mechanical joint for use with ductile iron pipe on one side and standard flanged (Class 125) on the other. Valves shall conform to the applicable section of these specifications.

2. Disinfection of Tapping or Drilling Machine

Prior to tapping a potable water main, the drilling machine's pilot drill, shell cutter and cutter hub shall be sterilized in accordance with the following procedure:

Four gallons of potable water shall be combined with 8 oz. of sodium hypochlorite (household bleach); the pilot drill, shell cutter and cutter hub shall be swabbed until clean or totally immersed in the sterilizing solution and allowed to remain wet at least five minutes before tapping operation commences. It is not necessary to rinse the sterilizing solution from tapping components prior to use.

3. Hydrostatic and Leakage Test

After installing a tapping sleeve and valve, and prior to tapping of a pressurized water main, a hydrostatic and leakage test shall be performed. The test will be conducted by introducing water into tap or test hole located at the neck of the outlet half of the sleeve, on sleeves furnished with said tap, and with the tapping valve in the closed position. Sleeves shall be provided with a test plug. The sleeve and valve shall be capable of maintaining a test pressure of 150 psi for 30 minutes duration, with no sign of visible leaks. All leaks shall be repaired by removing and replacing defective items with items free of defects, after which the sleeve and valve shall be re-tested. Such repair and re-testing shall be done until the installation passes the specified test. The Contractor shall furnish and install any necessary temporary restraints, gauges, pumps and other incidental and appurtenant items necessary to complete this work, and shall remove same upon completion of the test. A watertight plug shall then be inserted into the testhole.

B. Corporation Stops

All corporation stops to be Ford ball corp. FB 1600 AWWA/cc taper thread inlet by female iron pipe thread outlet or FB1000 ball corp with grip joint, McDonald 4701BT. Corporation stops shall be required on all services regardless of service size.

C. Curb Stop

Curb stops must be either Ford B41-343W-G (3/4' x 1") and B41-344W-G (1") both with grip joints or McDonald 6102 W.T.

Adapters can be Ford C84 series with grip joint or Mueller H-15428.

Separate services to be terminated with a curb stop in meter box one foot (1') off property line and minimum of two feet (2') off side property line. Either Brook #37 with 37H lid, for one inch (1"), Brook #38 with 38H lid for 1½", Brook #65 with 65H for 2", or DPW Model D-1200 for one inch (1") services. When performing pressure tests, curb stops must be capped or plugged and tested in the open position.

D. Ball Valves

Ball valves shall be limited to 3/4 inch through 2 inches in size and shall have cast bronze body, bronze tee head, stem with check, full roundway opening and provisions for locking in a closed position. Ball valves for use with copper services shall have an inlet connection with a flare nut fitting for Type K copper tubing and an outlet connection with female iron pipe thread, or shall have an inlet connection

with a compression joint (insert stiffener will be used with plastic service connections) and an outlet connection with female iron pipe thread. Ball valves for use with Schedule 40 PVC pipe shall have an outlet connection with female iron pipe threads and an inlet connection with either a compression joint or female iron pipe threads. The latter will require the use of an approved Schedule 40 PVC Adapter (MIPT X SLIP). Compression joints will require insert stiffeners. Below grade ball valves on water mains must have two inch (2") operating nuts and be installed in standard valve boxes.

E. Service or Tapping Saddle

Water services to be made with service saddle for C.I. or AC to be double strapped JCM 402, Mueller H- 10500, Smith-Blair 313, or Ford 202 and must be CC threads (AWWA) unless otherwise indicated in the contract plans.

Service saddles for PVC C-900 water pipe are Mueller (H-134—series or Ford S90). Taps to existing water mains will be made with an approved stainless steel tapping sleeve and resilient seat tapping valve.

Taps to existing water mains will be made with an approved stainless steel tapping sleeve and resilient seat tapping valve.

## 2.3 FIRE HYDRANTS

A. General

Fire hydrants shall be 4 ½ inch ductile iron body, fully bronze mounted, for 150 psi working pressure, complying with AWWA Standard C502. Fire hydrants to be Mueller #A421 or #A423, Clow Medallion, or M&H AWWA C-502 style 129 Traffic Model, 4½" main valve size. Unless otherwise stated, all drain holes must be rocked with 57 stone. The inlet connection shall be mechanical joint type, with accessories, for 6 inch ductile iron pipe. The hydrant foot shall be epoxy coated and have integral cast tie-back lugs. The integral shut-off valve shall be compression type opening against water pressure, right hand openings. Valve diameter and general interior design shall be sufficient to provide head loss/flow quantity ratios less than specified in the above cited Standard. The main valve seat and the threaded portion of the hydrant into which it screws shall be bronze. The hydrant barrel drain valve and port shall be bronze. The hydrant barrel drain shall be actuated by operation of the main valve stem. The stem operating threads and thrust bearing shall be sealed by "O" rings, from exposure to moisture and shall be provided with means for lubrication. The hose nozzles shall be bronze with National Standard fire hose coupling screw threads, one 4 inch pumper nozzle and two 2 ½ inch hose nozzles. The hydrant operating nut and nozzle cap nuts shall be 1¼" square. Pipe used for fire hydrant laterals shall be ductile iron Pressure Class 350, or Class 150 DR18 PVC. Tees and bends leading to fire hydrants shall be ductile iron only. The nozzle caps shall be securely chained to the hydrant barrel. **All above ground exposed chains, nuts, bolts and washers shall be 316 stainless steel.** The chains shall be free from rust or corrosion and painted to match the color of the hydrant. The hydrants shall be "Traffic" type with a frangible flange or lugs and operating stem section at the ground line. The hydrant shall be painted with the above ground finish color "Traffic Yellow".

B. Installation

Fire hydrants shall be installed at the locations shown on the drawings in accordance with the City of Jacksonville Beach Standard Details.

C. Independent Valve

Independent valve furnished with each hydrant shall be 6 inch, non-rising stem gate valve with mechanical joint ends in conformance with the sub-section entitled "Gate Valves" of these

specifications. Independent valves shall be provided with a cast iron valve box in conformance with the sub-section entitled "Valve Boxes".

D. Hydrostatic and Leakage Test

Hydrostatic and leakage tests shall be conducted in accordance with AWWA C502, Section 5.

## 2.4 VALVE BOXES

A. General

The Contractor shall furnish, assemble and install a valve box for each buried valve. Each valve box installed in non-paved areas shall be installed with a 24 inch round, 6 inch thick concrete collar with #4 reinforcing bars, poured around the top of the valve box cover. The concrete shall have a minimum strength of 3000 psi. Provide brass identification tag with "Water", valve size and valve type epoxyed or riveted to interior of valve box. Tag shall be 2 inch diameter, 1/8 inch thick brass, located a maximum of 2 inches below the top of the valve box.

B. Valve Boxes

Adjustable valve boxes of suitable length shall be used. Cover shall be marked "Water". The top section shall be adjustable for elevation and shall be set to allow equal movement above and below finished grade. The base shall be centered over the valve and shall be on line with nut at top of valve stem and the entire assembly shall be plumb. Boxes for paved areas shall be cast iron. Boxes for non-paved areas may be PVC. Cast iron castings shall be manufactured of clean, even grain, gray cast iron conforming to ASTM Designation A48, Class 20B, Gray Iron Castings; and shall be smooth, true to pattern, free from blow holes, sand holes, projections, or other harmful defects and shall be coated with a single thin coat of coal tar epoxy. The cover will not rock after it has been seated in any position in its associated jacket.

C. Debris Cap

Debris caps shall be required in all valve boxes. The debris cap shall be comprised of a hollow member having a cylindrical outer surface, a closure for one end and three point resilient contact pads projecting from the outer surface. One contact pad shall be movable by means of a cam having a low angle of advance whereby external forces applied to the cam via the movable contact pad will not cause rotation of said cam. The cap shall have a flexible skirt providing an outward seal preventing debris from getting past the cap. The cap must withstand without slippage, a minimum vertical force of 50 lbs. at a loading rate of 1.0 inches/minute. The cap shall have retaining prongs to retain a standard locating coil, and shall be capable of installing a standard fitting for "Lock-out/Tag-out" in compliance to all standards and requirements of State and Federal OSHA guidelines.

## 2.5 METER BOXES

A. Concrete

Where called for on the drawings, concrete meter boxes shall be the type as listed in the City of Jacksonville Beach Water and Sewer Standards, Details and Materials and shall be installed in accordance with the City of Jacksonville Beach Water and Sewer Standard Details. Concrete meter boxes will only be allowed in driveway and sidewalk areas.

B. Copolymer

Where called for on the drawings, copolymer meter boxes shall be the type as listed in the City of Jacksonville Beach Water and Sewer Standards, Details and Materials and shall be installed in accordance with the City of Jacksonville Beach Water and Sewer Standard Details. Copolymer meter boxes will be used in all grass areas.

## **2.6 BACKFLOW PREVENTION DEVICES**

### **A. Backflow Preventers for Water Service**

1. General: Backflow preventers shall work on the reduced pressure principle. The backflow preventer assembly shall consist of two (2) spring-loaded check valves, automatic differential pressure relief valve, drain valves and shut-off valves. The body material shall be bronze or cast iron for a working pressure of not less than 150 psi, with bronze or stainless steel trim. Drain lines with air gaps shall be provided. Rock type hot box enclosure shall be provided to enclose backflow preventer assembly.
2. Manufacturers:
  - a. Febco, Fresno, CA.
  - b. Hersey, Cleveland, NC.
  - c. Ames, Woodland, CA.
  - d. Watts Regulator Co., N. Andover, MA.
  - e. Wilkins, Paso Robles, CA.
  - f. Conbraco, Matthews, NC.

## **2.7 WATER METERS**

### **A. Compound Water Meter**

Where called for on the drawings, compound water meters shall be the type as listed in the City of Jacksonville Beach Water and Sewer Standards, Details and Materials and shall be installed in accordance with the City of Jacksonville Beach Water and Sewer Standard Details.

### **B. Turbine Water Meter**

Where called for on the drawings, turbine water meters shall be the type as listed in the City of Jacksonville Beach/ Water and Sewer Standards, Details and Materials and shall be installed in accordance with the City of Jacksonville Beach Water and Sewer Standard Details.

### **C. Compact Fireline Water Meters**

Where called for on the drawings, compact fireline water meters shall be the type as listed in the City of Jacksonville Beach Water and Sewer Standards, Details and Materials and shall be installed in accordance with the City of Jacksonville Beach Water and Sewer Standard Details.

## **PART 3 - WARRANTY**

### **3.1 MATERIAL WARRANTY**

The manufacturer of materials furnished on the project shall supply to the City of Jacksonville Beach, a one (1) year unconditional warranty. The warranty shall be limited to the material which shall constitute complete replacement and delivery to the site of materials only to replace defective materials with new materials conforming to the specifications. This warranty is contingent upon determination of failure by a private independent testing laboratory. The testing shall prove that the failure was caused by failure of the material.

The testing laboratory shall be selected by and agreed upon by both parties involved. This warranty is in addition to any warranty required for pipe linings herein before specified.

### **3.2 CONTRACTOR WARRANTY**

The Contractor shall supply to the City of Jacksonville Beach one (1) year unconditional warranty. The warranty shall include materials and installation and shall constitute complete replacement and delivery to the site of materials and installation of same to replace defective materials or defective workmanship with new materials/workmanship conforming to the specifications.

**END OF SECTION**

**SECTION 02662  
GRAVITY SEWERS**

**PART 1 - GENERAL**

**1.1 Description**

A. Scope of Work:

The Contractor shall furnish and install all gravity sewer lines, manholes, fittings and appurtenances required for a complete system as shown on the Drawings and specified herein. The work shall also include such connections, reconnections, temporary service, by-passing operations and all other provisions in regard to existing sewer operations and modifications as is required to perform the new work. All bypass pumping operations required to complete the gravity sewer main/service installations shall be included as part of the unit price for installing the gravity system piping. Bypassing pumps shall be the silent pack type units to minimize the sound associated with the work.

B. Quality Assurance

1. Design Requirements:

Contractor shall provide no less than 6" clearance between all utilities unless otherwise indicated. Maintain a minimum of 10 foot horizontal separation between water mains and sewer mains. Where water mains and sewer mains cross, maintain water main 18 inches above sewer main. Where this is not possible, mains shall be encased in a steel casing or concrete, or as otherwise directed on the Drawings or in writing by the Design Engineer.

C. Submittals

1. Shop Drawings:

Shop drawings shall adhere to the requirements of Section 01340: Shop Drawings, Working Drawings, and Samples. The Contractor shall submit to the Engineer four (4) sets of shop drawings plus that required by Contractor. At minimum, the shop drawings shall include:

- Manhole covers and frames
- Pipe and Fittings
- Manholes

D. Job Conditions

1. Water in Excavation:

Water shall not be allowed in the trenches while the pipes are being laid and/or tested. The Contractor shall not open more trench than the available pumping facilities are able to dewater to the satisfaction of the Engineer. The Contractor shall assume responsibility for disposing of all water so as not to injure or interfere with the normal drainage of the territory in which he is working. In no case shall the pipelines being installed be used as drains for such water, and the ends of the pipe shall be kept properly and adequately blocked during construction by the use of approved stoppers and not by improvised equipment. All necessary precautions shall be taken to prevent the entrance of mud, sand, or other obstructing matter into the pipelines. If on completion of the work any such material has entered the pipelines, it must be cleaned as directed by the Engineer so that the entire system will be left clean and unobstructed.

## PART 2-PRODUCTS

### 2.1 Materials

#### A. General:

All material shall be free from defects impairing strength and durability and be of the best commercial quality for the proposed specified. It shall have structural properties sufficient to safely sustain or withstand strains and stresses to which it is normally subjected and be true to detail. All pipe and fittings shall be clearly marked with the name or trademark of the manufacturer, the batch number, the location of the plant and strength designation.

#### B. PVC Pipe:

Polyvinyl Chloride Sewer pipe for use in gravity sewer systems shall conform to ASTM D-3034-74 for Type PSM Polyvinyl Chloride (PVC) sewer pipe and fittings for sizes 4 inch thru 12 inch in diameter, except as hereinafter modified. Pipe shall be SDR 35 or SDR 26, as indicated on the Drawings. The pipe material shall meet or exceed the approved Class 12 454-B, PVC compound conforming to ASTM D1784, latest. The bell shall be extruded integral with the pipe barrel with a thickness equal to or greater than that of the barrel. The laying length shall not exceed 12' - 6" +/- 1" without specific written approval of the Design Engineer.

1. Joints: Joints for PVC pipe and fittings shall be in accordance with ASTM D-3034-74, subparagraphs 6.2 and 6.2.1.
2. Elastomeric Gasket Joint: Provision shall be made for contraction and/or expansion at each joint with a solid cross section rubber ring. The rubber ring shall be factory assembled and secured in the bell, in such a manner so as to prevent sliding or rolling when the spigot end of the adjoining pipe is installed.
3. Fittings: All fittings and accessories shall be manufactured in accordance with ASTM D-3034-74, except that saddle tee's or saddle wyes shall not be permitted except by special written approval of the Design Engineer. Said fittings shall have a thickness equal to or greater than that specified in the aforementioned pipe specification and shall be of the bell and spigot configuration.
4. Test Reports: All pipe and fittings delivered to the job site shall be accompanied by independent testing, laboratory reports, certifying that the pipe and fittings conform to the above mentioned ASTM specification(s).
5. Certification: The Contractor shall submit a notarized statement of certification from the pipe manufacturer as to conformance with the aforementioned ASTM specification(s) and modifications thereto, at the time of submitting shop drawing and data on the pipe and fittings.

#### C. Ductile Iron Pipe:

Ductile iron pipe, 3-inch through 54-inch, shall conform to ANSI Standard Specification A21.51-76 Ductile Iron Pipe Centrifugally Cast in Metal Molds or Sand-Lined Molds for Water and Other Liquids with the minimum rated working pressure. The pipe shall have design values of 60,000 P.S.I. tensile strength, 42,000 p.s.i. yield strength, and 10% minimum elongation. The wall thickness shall be in accordance with Table 51.2 and the corresponding class designation in Table 51.3 of the above referenced Specification using wall thickness for laying condition "B" and thickness as required to the depth of cut shown on drawings. In addition to the standard required by markings required ANSI A21-51-76, each joint of pipe shall be marked for the depth of cut it is to be used on the project. Such marking shall be stenciled on the pipe exterior. The interior of all ductile iron pipe 8 inches and larger shall be furnished with a factory applied Polyethylene or coal tar epoxy lining. All ductile iron pipe

6-inch diameter and smaller shall be furnished with a factory applied bituminous interior coatings, of either coal tar or an asphalt base at least 1 mil thick. Joints for ductile iron pipe shall be as hereinbefore specified for cast iron pipe.

1. Fittings: Shall conform to ANSI Standard Specifications A21.10-71, American Standard for cast iron fittings, 2 inch through 48-inch for water and other liquids, class 150, Mechanical unless otherwise noted on the drawings.
  2. Tapping Saddles: Shall conform to ANSI Standard Specifications A21.10-71, American Standard for Gray-Iron and Ductile Iron fittings, 2-inch through 48-inch for water and other liquids, class 150, with a Mechanical Joint Socket connection in accordance with ANSI A21.11 latest edition, Table 10.1.
  3. Coating: All ductile iron pipe and fittings shall be furnished with a factory applied bituminous coating of either coal tar or asphalt base at least one mil in thickness applied to the outside of the pipe and fittings.
- D. The interior of all ductile iron pipe and fittings shall be furnished with factory applied polyethylene lining. The lining material shall be virgin polyethylene complying with ASTM D1248, compounded with sufficient carbon black to resist ultraviolet rays during above ground storage of the pipe. The polyethylene shall be fused to the interior of the pipe by heat forming a tightly bonded lining.
1. Operating Limits: Lining shall have the capability of withstanding operating temperatures from minus 20 degrees F. to plus 170 degrees F. and withstanding sewage with a minimum pH of 4.0.
  2. Application: Polyethylene lining is to cover the inner surface of the pipe, extending from the plain or beveled end to the rear of the gasket socket.
  3. Adhesion: Each pipe is to be checked at the point of manufacture to assure bond of the lining to the pipe. Any indication of separation of lining from pipe is cause for rejection. The acceptable method of testing is to use a knife to slit the lining to bare metal. This slit will be 1 " to 2" in length and will be made approximately one (1) foot from the plain end of the pipe. The knife point will then be used to attempt to pry the lining from the pipe. If the lining can be readily separated in this manner, the pipe shall be rejected. After testing, the slit shall be repaired with a small torch lightly flaming the slit until the surface has refused.
  4. Entrapped Material: Any sizeable protrusion in the lining obviously caused by lining over foreign materials shall be cause for rejection.
  5. Separations: Linings which have separations caused by hot slips produced during the lining, operation shall be rejected. A "hot slip" defect would appear as a double, flow or fold in the lining with evidence of separation.
  6. Damages to Lining: Injurious mechanical damage such as chuck marks and gouges extending to bare metal are not acceptable. At the discretion of the Engineer, the pipe having such a defect shall either be rejected or shall be field repaired. The only acceptable method of field repair is to trim off the loose ends of the polyethylene thoroughly dry and clean the bare metal by sanding or wire-brushing, and applying at least two coats of coal tar epoxy to a total thickness of approximately 20 mils.
  7. Lining Thickness: Linings of nominal 20 mil thickness shall generally equal or exceed 20 mils throughout the pipe. At pipe ends, lining thickness may taper for a distance of 4 inches from the ends, to a minimum of 10 mil thickness.

8. Pinholes and/or Holidays: The size of individual discontinuities shall not exceed 0.1 square inch at the lining surface. At least 99% of the total metal surface, as defined in paragraph 428.2.6, shall be covered with polyethylene.
9. Warranty: A five (5) year warranty shall be furnished by the manufacturer on the serviceability of the lining. This warranty shall include but not be limited to statements that at any time up to the end of the fifth year from the date of pipe shipment:
  - a. The lining shall not have disbonded.
  - b. The lining shall not have suffered any appreciable underfilm migration.
  - c. The interior pipe metal, at points of pinholes or holidays, shall not have suffered detrimental deterioration.
  - d. The lining shall have maintained its smooth surface characteristics.

This warranty shall be exempt from:

  - e. Mechanical damage during shipment, unloading, storage stringing, installation or service; however, the repair of any damaged area in no way jeopardizes the warranty of the balance of the lining.
  - f. Erosion due to abrasives in the sewage.
  - g. Sewage with pH below 4.0.
10. Certification: The manufacturer shall furnish notarized certificates of compliance stating that the lining conforms to all requirements of these specifications.

### **PART 3 - EXECUTION**

#### **3.1 General**

If, the method of pipe laying shall be subject to the approval of the Engineer. Each pipe shall be inspected and tested before being laid to insure that it is sound and of good quality. The pipe laying shall proceed upgrade, beginning at the lower end of the sewer, with all bell ends upgrade. In no case shall the pipe be walked on either before or after the joints have been made. Upon discovery, any defective pipe which may have been laid shall be removed and replaced with sound pipe at no additional cost to the City. Extreme care shall be taken to keep the pipe in exact alignment and elevation. Pipe shall be laid to conform accurately to the lines and grades indicated on the drawings. It shall be the Contractors responsibility to locate all underground utilities in advance of construction, to insure that no conflicts occur with the proposed line and grade. If approved by the Engineer, minor changes in the alignment but not the grade will be permitted to avoid underground facilities, provided that straight alignment can be maintained between manholes. However, if a conflict is found between an existing utility and proposed grade, the Contractor is to furnish the Design Engineer all pertinent information, so that remedial design can be performed.

#### **3.2 Laying and Jointing**

- A. The pipe shall be laid on an unyielding foundation with uniform bearing under the full length of the barrel of the pipe. Suitable excavations shall be made to receive the bell of each pipe, which shall be carefully laid true to line and grade. All adjustments to line and grade must be made by scraping away or filling in under the barrel of the pipe and not by wedging and blocking up any portion of the pipe. The spigot end of each pipe shall abut against the base of the socket of the adjacent pipe in such a manner that there will be no unevenness of any kind along the bottom halves of the pipes. Just before jointing the pipes, the mating ends shall be thoroughly cleaned of all dirt, debris, and foreign material. The pipe shall be jointed in accordance with the recommendations of the manufacturers.
- B. Stoppers:

Openings such as stubs, tees, or other services along the lines shall be securely closed by means of an approved stopper that fits into the bell of the pipe and is recommended by the pipe manufacturer. This stopper shall be jointed in such a manner that it may be removed at some future time without injury to the pipe itself. At the close of each day's work, and at other times when pipe is not being laid, the end of the pipe shall be temporarily closed with a close-fitting stopper approved by the Engineer.

C. Cleaning:

All necessary precautions shall be taken to prevent the entrance of mud, sand or other obstructing material into the pipelines. As the work progresses, the interior of the sewer shall be cleaned of all dirt, jointing material and superfluous materials of every description. The Contractor shall flush all sewer lines constructed under this Contract with clean water, prior to final inspection, to assure complete removal of all debris and foreign material, and to the satisfaction of the Engineer.

D. Bedding and Backfill:

For pipe material of Acrylonitrile-Butadiene-Styrene, (ABS) either a composite or solid wall sewer pipe and also Polyvinyl Chloride (PVC) Sewer Pipe, sufficient backfill shall be performed to protect the pipe adequately from injury and movement as stipulated in ASTM-D-2321 latest. The bedding for this type pipe shall be Class B, Type I modified unless under-cutting is required. If unsuitable material shall be removed and replaced with AASHO Class A-3 sand and compacted to the requirements of Section 02200, Excavating, Backfilling and Compacting of this set of specifications. The bedding shall be compacted in 6 inch lifts to one (1) foot above the top of pipe and then the remaining backfill shall be placed in 12 inch loose lifts and compacted to 100% maximum density, per ASTM D1557, latest.

### 3.3 Service Connections

Types of connections shown on the drawings. Although the general location of connections may be shown on the drawings, the actual location shall be determined by the Contractor, subject to approval by the City and Engineer. Each service connection shall be accurately recorded by stationing on the As-built drawings and shall be furnished to the Engineer.

### 3.4 Grade and Alignment Stakes

All grade and alignment stakes for construction under this project shall be set by a land surveyor registered to practice in the State of Florida and all costs thereof shall be borne by the Contractor. The requirements for this work to be accomplished by a registered land surveyor may be waived by the Engineer in the event the Contractor desires to utilize his own personnel and furnishes, in writing to the Engineer, satisfactory evidence that his personnel are qualified to set the grade and alignment stakes. The Contractor shall assume all responsibility for the correctness of the grade and alignment stakes.

### 3.5 Tests

General:

A. All work constructed shall be subject to visual inspection for faults or defects and any such deviation or omission shall be corrected at once. All tests shall be made by the Contractor who shall provide necessary equipment for testing and the system in the presence of, and under the supervision and instructions of the Engineer. All costs for testing defined below shall be borne by the Contractor.

B. Low Pressure Air Testing:

After completion, each section of pipe between manholes shall be tested using low pressure air, in accordance with ASTM C828. The equipment shall be similar and equal to Chem Air Loc Equipment as manufactured by Chem Industrial, Inc. Each section of pipe between successive manholes shall be sealed with suitable plugs. One of the plugs shall have an air supply hose connection through which air

can be passed into the section of pipe being tested. The air supply line shall have a positive on-off valve and suitable means for readily disconnecting it at the control panel. A second air hose connected through the plug shall be used for constantly reading the internal pressure of the pipe. This hose shall be continuously connected to a pressure gauge which can be read to one-tenth pound. The pipe being tested shall be pressurized to approximately 4 p.s.i.g. greater than the average back pressure of any ground water that may be over the pipe. Allow at least two minutes for the air pressure to stabilize. If during this period the pressure has dropped below 3.5 p.s.i.g. introduce more air to raise the pressure to a minimum of 3.5 p.s.i.g. After this stabilization period, with a minimum of 3.5 p.s.i.g. in the pipe, disconnect the air hose from the control panel to the air supply inlet to the pipe. The pipe being tested shall be considered acceptable if the time required in minutes for the pressure to drop from 3.5 to 2.5 p.s.i.g. is equal to or greater than one-half the nominal diameter of the pipe in inches. In areas where ground water is known to exist, the contractor shall install a one-half inch diameter capped pipe nipple, approximately 10 inches long, through the manhole wall on top of one of the sewer lines entering the manhole. This shall be done at the time the sewer line is installed. Immediately prior to the performance of the Line Acceptance Test, the ground water shall be determined by removing the pipe cap, blowing air through the pipe nipple into the ground so as to clear it, and then connecting a clear plastic tube to the nipple. The tube shall be held vertically and a measurement of the height in feet of water over the invert of the pipe shall be taken after the water has stopped rising in this plastic tube. The height in feet shall be divided by 2.3 to establish the pounds of pressure that will be added to all readings. All lines which fail to meet these tests shall be repaired and retested as necessary, until test requirements are met. The Engineer reserves the right to require the contractor to test the first section between manholes laid by each pipe crew under this contract before additional sections are laid.

C. Deflection and Deformation:

Acrylonitrile-Butadiene-Styrene (ABS) and Polyvinyl Chloride (PVC) pipe shall be tested for deflection and deformation, deflection inspection and/or equipment to be used shall be approved by the Design Engineer prior to any tests being performed. Any pipe found to be deformed and/or deflected in excess of 5% of the nominal diameter of the pipe shall be removed and replaced with new pipe at no additional cost to the City. Results of the test shall be submitted to the City in triplicate, in a report format approved by the Design Engineer. The cost of this service shall be included in the unit price bid for the particular item to which it is related.

1. TV Inspection:

Television inspection prior to paving will be required on all new and/or replacement sewers constructed under this project. This service shall be provided by the Contractor as a part of this Contract. The newly constructed sewers shall be televised in the presence of the Engineer or his representative. A full report, as to the condition of pipe, type, depth, location of services, length, type joint, and distance between manholes, etc., shall be furnished to the Engineer prior to the final acceptance and/or final payment of the Contract. The cost of this service shall be included in the unit price bid for the particular item it is related to. The Contractor shall submit to the Engineer a blank copy of the proposed TV report form for approval prior to any inspection services being performed. Any pipe found to be cracked, leaking or otherwise defective shall be removed and replaced with new pipe at no additional costs to the City.

### 3.6 Sewer Abandonment

A. Sewer Line Abandonment:

Abandonment of all existing gravity sewer lines falling within the limits of street, easements, alley or highway rights-of-way shall be treated in the following manner. Existing gravity sewer lines will not be classified as abandoned until such time as all existing service connections have been transferred to a new operating sewer line.

B. Seals:

All abandoned sewer lines where called for on the contract drawings to be sealed, shall be sealed at each end and at every break in the line. Seals for all pipe sizes shall be of Class "C" concrete or concrete grout and rubble and shall extend into the sewer for at least 12 inches.

C. Grout Filled:

All abandoned sewer lines where called for on the contract drawings to be grout filled shall be accomplished by the following procedure. Lines to be grout filled shall be completely filled with the sand cement grout by pumping the mixture into the pipelines from downstream or low end of the line with an approved grout pump. The Contractor shall clean the line of all sand and debris prior to grout filling.

D. Grout Mix:

Grout for filling abandoned sewer lines shall consist of at least 15% portland cement by volume and shall be mixed to a consistency suitable for pumping. Sand used in the grout mixture shall meet the requirements for fine aggregate.

**3.7 Remove Existing:**

Where shown on the contract drawings or called for elsewhere in the contract documents shall mean the complete removal of the sewer pipe and disposed of as specified by the Engineer.

A. Remove and Construct:

Where shown on the contract drawings or called for elsewhere in the contract documents shall mean the complete removal of the existing sewer pipe and constructing a new sewer pipe in the same trench, but not necessarily in the same documents shall mean the complete removal of the existing sewer pipe and constructing a new sewer pipe in the same trench, but not necessarily in the same elevation. The existing pipe shall be disposed of by the Contractor. Excavation and backfill shall be as specified in Section 02200: Excavating, Backfilling and Compacting.

B. Seal at Existing Structures:

When sewers that are to be abandoned or existing lines to be removed fall above or below the new line to be constructed, the opening left in the existing manhole wall shall be thoroughly plugged with "Embeco 167 Mortar" or approved equal nonshrinking mortar applied and cured in strict conformance with the manufacturer's recommendations. The mortar shall be finished smooth and flush with the adjoining interior manhole wall surface.

**END OF SECTION**

**SECTION 02667**  
**AS-BUILT ENGINEERING PLANS**

**PART I - GENERAL**

**1.1 DESCRIPTION – POTABLE WATER**

- A. As-Built drawings of all water construction shall be submitted to the City of Jacksonville Beach for review and approval by the Public Works Department. As-Built drawings shall be prepared in CADD by revisions and amendment to a paper and pdf copy and CADD disk of the engineering plans of the project. Each sheet shall be labeled “AS-BUILT” in one-inch high letters. As-built drawings shall be prepared by a registered land surveyor or a professional engineer who is licensed to practice in the State of Florida according to the provisions of Chapters 471 or 472 of the Florida Statutes. Two (2) Final approved as- built drawings shall be submitted to the Public Works Department in the following format: Two (2) Auto Cad Release 2016 or latest revision used by City, Two (2) CD’s with signed and sealed pdf copies, and Two (2) signed and sealed original full size paper copies.
- B. As-built information shall be recorded and kept current during the progress of the work. Locations and elevations of pipe, fittings, valves, etc. shall be taken before the construction trench is backfilled. In showing changes the same legend that was used on the construction drawings shall be used to identify items on the as-built drawings. The as-built drawings shall bear the name, date, and original signature of the general contractor responsible for the water construction and the name, date, original signature and seal of the surveyor or engineer who prepared the as-built drawings. The signatures shall certify that the as-built drawings do, in fact, reflect the true as-built conditions as located under the direct supervision by the Registered Surveyor and/or Engineer. Where service connections are properly marked on the curb & gutter and/or by marker in the ground, the Public Works Department will accept a certification to the location and depth by the Contractor. All final As-Built Drawings will be prepared on AutoCAD or an approved equal.
- C. All valves, fittings, fire hydrants, etc. shall be located in two directions; one location shall be referenced perpendicular to the right-of-way line. The other location shall be parallel to the water main and shall be referenced to the right-of -way line of the nearest street intersection. Locations to pavement, curb, sidewalk, or other utility structures are not acceptable unless these are in turn referenced to right-of -way lines. Centerline of right-of-way may be used for reference in lieu of the right-of-way line.
- D. Elevations are required and shall be referenced to a NGVD Survey benchmark. The location and elevation of the benchmark shall be shown on the as-built drawings.
- E. All horizontal and vertical control dimensions shall be shown to the nearest hundredth of a foot. Locations and elevations of pipe shall be shown every 500 feet maximum and at every change in location or elevation. Locations of water services shall be given to the center of the metal lid in the top of the meter box. The size and type of water pipe, valves, fittings, etc. shall also be shown (i.e. 8" DR 18 PVC pipe). Special details may be required where installations are not as shown on the construction drawings due to field conditions. All service lines shall be referenced off individual property lines.

**1.2 DESCRIPTION-WASTEWATER**

- A. As-built drawings of all sewer construction shall be submitted to the City of Jacksonville Beach for review and approval by the Public Works Department. As-Built drawings shall be prepared in CADD by revisions and amendment to a paper and pdf copy and CADD disk of the engineering plans of the project. Each sheet shall be labeled “AS-BUILT” in one-inch high letters. As-built drawings shall be prepared by a registered land surveyor or a professional engineer who is licensed to practice in the State of Florida under the provisions of Chapters 471 or 472 of the Florida Statutes. Two (2) Final approved as-built drawings shall be submitted to the Public Works Department in the following format: Two (2) Auto Cad Release 2016 or latest revision used by City, Two (2) CD’s with signed and sealed pdf

copies, and Two (2) signed and sealed original full size paper copies.

As-built information shall be recorded and kept current during the progress of the work. Locations and elevations of pipe, fittings, valves, etc. shall be taken before the construction trench is showing changes, the same legend that was used on the construction drawing shall be used to identify items on the as-built drawings. The as-built drawings shall bear the name, date and original signature of the general contractor responsible for the sewer construction and the name, date, original signature and seal of the surveyor or engineer who prepared the as-built drawings. The signature shall certify that the as-built drawings do, in fact, reflect the true as-built condition as located under the direct supervision of the registered surveyor and/or engineer. All final As-Built Drawings shall be prepared on AutoCAD or an approved equal.

- B. Where service connections are properly marked on the curb and gutter and/or by marker in the ground, the Public Works Department will accept a certification to the location and depth by the contractor.
- C. All pipe, manholes, valves, fittings, etc. shall be located in two directions. One location shall be referenced perpendicular to the right-of-way line. The other location shall be parallel to the sewer main and shall be referenced to the right-of-way line of the nearest street intersection. Locations to pavement, curb, sidewalk or utility structures are not acceptable unless these are, in turn, referenced to right-of-way lines.
- D. Centerline of right-of-way may be used for reference in lieu of the right-of-way line. Elevations where required shall be referenced to an NGVD Survey benchmark. The location and elevation of the benchmark shall be shown on the as-built drawings. All services shall be referenced off individual property lines.

### **1.3 DESCRIPTION -STORMWATER**

- A. As-Built drawings of all stormwater construction shall be submitted to the City of Jacksonville Beach for review and approval by the Public Works Department. As-Built drawings shall be prepared in CADD by revisions and amendment to a paper and pdf copy and CADD disk of the engineering plans of the project. Each sheet shall be labeled "AS-BUILT" in one-inch high letters. As-built drawings shall be prepared by a registered land surveyor or a professional engineer who is licensed to practice in the State of Florida according to the provisions of Chapters 471 or 472 of the Florida Statutes. Two (2) Final approved as- built drawings shall be submitted to the Public Works Department in the following format: Two (2) Auto Cad Release 2016 or latest revision used by City, Two (2) CD's with signed and sealed pdf copies, and Two (2) signed and sealed original full size paper copies.
- B. As-built information shall be recorded and kept current during the progress of the work. Locations and elevations of pipe, inlet inverts and inlet grates shall be taken before the construction trench is backfilled. In showing changes the same legend that was used on the construction drawings shall be used to identify items on the as-built drawings. The as-built drawings shall bear the name, date, and original signature of the general contractor responsible for the water construction and the name, date, original signature and seal of the surveyor or engineer who prepared the as-built drawings. The signatures shall certify that the as-built drawings do, in fact, reflect the true as-built conditions as located under the direct supervision by the Registered Surveyor and/or Engineer. Where service connections are properly marked on the curb & gutter and/or by marker in the ground, the Public Works Department will accept a certification to the location and depth by the Contractor. All final As-Built Drawings will be prepared on AutoCAD or an approved equal.
- C. All pipes and inlets shall be located in two directions; one location shall be referenced perpendicular to the centerline of construction stationing. The other location shall be parallel to the centerline of construction stationing. Locations to pavement, curb, sidewalk, or other utility structures are not acceptable unless these are in turn referenced to centerline of construction stationing.
- D. Elevations are required and shall be referenced to a NGVD Survey benchmark. The location and elevation of the benchmark shall be shown on the as-built drawings.

- E All horizontal and vertical control dimensions shall be shown to the nearest hundredth of a foot. Locations and elevations of pipe shall be shown every 500 feet maximum and at every change in location or elevation. Locations of inlets shall be given to the grate or in the case of manholes to the center of the manhole cover. The size and type of pipe shall also be shown throughout the drawings. Special details may be required where installations are not as shown on the construction drawings due to field conditions.

#### **1.4 DESCRIPTION - ROADWAY**

- A As-Built drawings of all roadway construction shall be submitted to the City of Jacksonville Beach for review and approval by the Public Works Department. As-Built drawings shall be prepared in CADD by revisions and amendment to a paper and pdf copy and CADD disk of the engineering plans of the project. Each sheet shall be labeled "AS-BUILT" in one-inch high letters. As-built drawings shall be prepared by a registered land surveyor or a professional engineer who is licensed to practice in the State of Florida according to the provisions of Chapters 471 or 472 of the Florida Statutes. Two (2) Final approved as- builts shall be submitted to the Public Works Department in the following format: Two (2) Auto Cad Release 2016 or latest revision used by City, Two (2) CD's with signed and sealed pdf copies, and Two (2) signed and sealed original full size paper copies.
- B As-built information shall be recorded and kept current during the progress of the work. Locations and elevations of curb, gutter, edge of pavement and sidewalk are to be documented using stationing and offset from the center line of construction. In showing changes the same legend that was used on the construction drawings shall be used to identify items on the as-built drawings. The as-built drawings shall bear the name, date, and original signature of the general contractor responsible for the water construction and the name, date, original signature and seal of the surveyor or engineer who prepared the as-built drawings. The signatures shall certify that the as-built drawings do, in fact, reflect the true as-built conditions as located under the direct supervision by the Registered Surveyor and/or Engineer. All final As-Built Drawings will be prepared on AutoCAD or an approved equal.
- C All curbs, gutters, edges of pavement and sidewalks shall be located in two directions; one location shall be referenced perpendicular to the centerline of construction stationing. The other location shall be parallel to the centerline of construction stationing. Locations to pavement, curb, sidewalk, or other utility structures are not acceptable unless these are in turn referenced to centerline of construction stationing.
- D Elevations are required and shall be referenced to a NGVD Survey benchmark. The location and elevation of the benchmark shall be shown on the as-built drawings.
- E All horizontal and vertical control dimensions shall be shown to the nearest hundredth of a foot. Locations and elevations of curb, gutter, edge of pavement and sidewalk shall be shown at all curb returns and changes from tangency to radius'. Special details may be required where installations are not as shown on the construction drawings due to field conditions.

#### **PART 2 - PRODUCTS - NOT USED**

#### **PART 3 - EXECUTION**

##### **3.1 POTABLE WATER**

- A General Requirements
  - 1. All Engineering Construction Plans As-builts shall be 24 X 36; therefore, all As-builts shall be 24" x 36" and shall bear the name of contractor or subcontractor who prepared the drawing and

the date it was prepared.

2. Surveyor's Statement (embossed seal) and original signature on each sheet.
3. Contractor's statement and original signature on each sheet.
  - a. Statements shall verify that As-built drawings reflect the true conditions.
  - b. As-Built shall be labeled on each sheet in 1-inch high letters.
  - c. Street names shall be on all streets.
  - d. Location and elevation of the benchmark shall be shown on drawings.

**B. Water Locations**

1. Locate valves, fittings, fire hydrants, etc. in two directions.
2. Locations shall be:
  - a. perpendicular of right-of-way
  - b. parallel to water main and referenced perpendicular to right-of-way line of nearest street).
3. Center line may be used in lieu of right-of-way line.
4. Structures, which are properly located, may be used, providing ties are perpendicular or parallel to said structure. Radial ties are not acceptable.
  - a. All horizontal and vertical distances to be shown to nearest tenth of a foot.
  - b. Show all sizes and types of valves, fittings, pipe, hydrants, etc.
  - c. Special detail drawings will be required where installations were not shown on contract drawings due to field conditions or where required for clarity.
  - d. Elevations on pipe and fittings every 500 feet maximum except where changes in direction and/or elevations occur. Then locations are required at those points.
  - e. Locations on pipe every 500 feet except where changes in direction occur; then those locations are required.
  - f. Locate and give elevations for beginning, middle, and end of deflected pipe.

**3.2 WASTE WATER**

- A. Gravity Sewers - All horizontal control dimensions shall be shown to the nearest tenth of a foot. All elevations shall be shown to the nearest hundredth of a foot. The locations of all manholes shall be given to the center of the manhole cover. Elevations shall be given for the top of the manhole cover and for each pipe invert. Locations of sewer connections shall be given to the plug or to the point where the connection is joined to the consumer's service. Elevations shall be given if the end of the connection is less than 36" or more than 60" deep. The size and type of pipe and manholes shall also be given (i.e., type "A" manhole, SDR 35 PCV pipe).
- B. Force Mains - A horizontal and vertical control dimensions shall be shown to the nearest tenth of a foot. Locations and elevations of the pipe shall be shown every 500 feet maximum, or at every change

in location or elevation and at the points of connection. The size and type of pipe, fittings, valves, etc. shall also be shown (i.e., 8" 45 degree bend).

C. Pump Stations - The following information will be required.

1. The size and location of the wet well to the nearest tenth of a foot.
2. All utilities within the pump station site shall be located relative to property lines and/or right-of-way lines.
3. Elevations shall be given for the top of the wet well cover and for each pipe invert and at ground adjacent to wet well. All utilities materials and sizes of lines and fittings shall be indicated.
4. All schedules on the construction drawings, which show pump, motor or electrical data shall be amended to show as-built conditions.
5. Special details may be required where installations are not as shown on the construction drawings due to field conditions.
6. As-built information should be provided for the pump station site plan. Within the pump station boundaries the following shall be located horizontally: pump-out, water spigot and cross-connection control device, wet well, control panel, bends, fittings, manholes, generator and fuel tank, transformer, irrigation system, fence, and auxiliary electrical enclosures, as applicable.
7. All buried electrical conduit shall be labeled and located including electrical service from utility transformer to station meter and to control panel.

### 3.3 STORMWATER

A. General Requirements

1. All Engineering Construction Plans As-builts shall be 24 X 36; therefore, all As-builts shall be 24" x 36" and shall bear the name of contractor or subcontractor who prepared the drawing and the date it was prepared.
2. Surveyor's Statement (embossed seal) and original signature on each sheet.
3. Contractor's statement and original signature on each sheet.
  - a. Statements shall verify that As-built drawings reflect the true conditions.
  - b. As-built shall be labeled on each sheet in 1-inch high letters.
  - c. Street names shall be on all streets.
  - d. Location and elevation of the benchmark shall be shown on drawings.

B. Stormwater

1. Summary of Drainage Structures
  - a. Changes in types of inlets or manholes that were added, revised or deleted.
  - b. Changes to plan lengths of pipe to reflect the actual construction length when an authorized field change is made or a plan error is noted.
  - c. Type of pipe material used at each structure.

- d. Changes in size of structures
2. Drainage Structure Sheets
    - a. Inlets, manholes, box culverts and end walls that were added, relocated, revised or deleted.
    - b. Changes in stations or offset dimensions
    - c. Changes to flow line elevations
    - d. Changes in size of structures
    - e. Types of inlets and manholes constructed shall be indicated.
  3. Plan and Profile Sheets
    - a. Changes in types of inlets or manholes that were added, revised or deleted.
    - b. Changes to plan lengths of pipe to reflect the actual construction length when an authorized field change is made or a plan error is noted.
    - c. Type of pipe material used at each structure.
    - d. Changes in size of structures
    - e. Changes in stations or off set dimensions
    - f. Changes to flow line elevations
- C. Pump Stations - The following information will be required.
1. The size and location of the wet well to the nearest tenth of a foot.
  2. All utilities within the pump station site shall be located relative to property lines and/or right-of-way lines.
  3. Elevations shall be given for the top of the wet well cover and for each pipe invert and at ground adjacent to wet well. All utilities materials and sizes of lines and fittings shall be indicated.
  4. All schedules on the construction drawings, which show pump, motor or electrical data shall be amended to show as-built conditions.
  5. Special details may be required where installations are not as shown on the construction drawings due to field conditions.
  6. As-built information should be provided for the pump station site plan. Within the pump station boundaries the following shall be located horizontally: pump-out, water spigot and cross-connection control device, wet well, control panel, bends, fittings, manholes, generator and fuel tank, transformer, irrigation system, fence, and auxiliary electrical enclosures, as applicable.
  7. All buried electrical conduit shall be labeled and located including electrical service from utility transformer to station meter and to control panel.

### 3.4 ROADWAY

#### A. General Requirements

1. All Engineering Construction Plans As-builts shall be 24" x 36"; therefore, all As-builts shall be 24" x 36" and shall bear the name of contractor or subcontractor who prepared the drawing and the date it was prepared.
2. Surveyor's Statement (embossed seal) and original signature on each sheet.
3. Contractor's statement and original signature on each sheet.
  - a. Statements shall verify that As-built drawings reflect the true conditions.
  - b. As-built shall be labeled on each sheet in 1-inch high letters.
  - c. Street names shall be on all streets.
  - d. Location and elevation of the benchmark shall be shown on drawings.

#### B. Roadway

1. Plan and Profile Sheets
  - a. Revisions to the horizontal and vertical alignments as shown on the original plans.
  - b. Stations or equations that have been introduced or revised during construction.
  - c. Intersection or crossover details that have been modified or relocated.
  - d. All sidewalk or brick pavers that were modified in thickness or location, all curb and gutter and shoulder gutter that was added, revised or deleted.
  - e. All driveways that were not shown on the original plans or were shown but are no longer in existence or were modified in thickness or location.
  - f. Changes in fence locations
  - g. Sign locations changed and pavement markings that were modified.
  - h. All lighting details or locations that have been modified during construction.
2. Grading Sheets
  - a. Revisions to the final grades, elevations, stations and offsets of all edges of pavement, points of transition, horizontal curves, vertical curves, curb and gutter, sidewalk, brick pavers or other callouts made on the grading plans that were modified during construction.

**END OF SECTION**

## **SECTION 02934 SOLID SODDING**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION**

Scope of Work: The work specified in this Section consists of establishing a stand of grass, within the areas indicated on the Drawings or disturbed by the construction activities, by furnishing and placing grass sod. Also included are watering and maintenance as required to assure a healthy stand of grass.

#### **1.2 SUBMITTALS**

A certification of sod quality by the producer shall be delivered to the Engineer ten (10) days prior to use.

#### **1.3 GUARANTEE**

All restoration and revegetation work shall be subject to the one (1) year guarantee period of the Contract as specified in the General Conditions of the Contract herein.

### **PART 2 - PRODUCTS**

#### **2.1 GRASS SOD**

- A. Grass sod shall be Bermuda or St. Augustine compatible with existing grass sod or as directed by the City's Representative. All sod shall be well matted with grass roots. The sod shall be taken in rectangles, preferably 12-inch by 24-inch, shall be a minimum 2-inches in thickness and shall be live, fresh and uninjured at the time of planting.
- B. It shall be reasonably free of weeds and other grasses and shall have a soil mat of sufficient thickness adhering firmly to the roots to withstand all necessary handling. The sod shall be planted as soon as possible after being dug and shall be shaded and kept moist until it is planted.

#### **2.2 WATER FOR GRASSING**

The water used in the sodding operations shall be obtained as provided for in Section 01500: Temporary Facilities.

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION OF GROUND**

The area over which the sod is to be placed shall be scarified or loosened to a depth and then raked smooth and free from debris. Where the soil is sufficiently loose and clean, the Engineer, at his discretion, may authorize the elimination of ground preparation. Once the ground is prepared, 4-inches of A3 clean fill shall be installed before placement of sod.

#### **3.2 PLACING SOD**

- A. The sod shall be placed on the prepared surface, with edges in close contact and shall be firmly and smoothly embedded by light tamping with appropriate tools.

- B. Sod, which has been cut for more than 72 hours shall not be used unless specifically authorized by the Engineer after his inspection thereof. Sod, which is not planted within 24 hours after cutting shall be stacked in an approved manner and maintained and properly moistened. Any pieces of sod which, after placing, show an appearance of extreme dryness shall be removed and replaced by fresh, uninjured pieces.
- C. Sodding shall not be performed when weather and soil conditions are, in the Engineer's opinion, unsuitable for proper results.

### **3.4 WATERING**

The areas on which the sod is to be placed shall contain sufficient moisture, as determined by the Engineer, for optimum results. After being placed, the sod shall be kept in a moist condition to the full depth of the rooting zone for at least 2 weeks. Thereafter, the Contractor shall apply water as needed until the sod roots and starts to grow for a minimum of 60 days (or until final acceptance, whichever is latest).

### **3.5 MAINTENANCE**

- A. The Contractor shall, at his expense, maintain the sodded areas in a satisfactory condition until final acceptance of the project. Such maintenance shall include repairing of any damaged areas and replacing areas in which the establishment of the grass stand does not appear to be developing satisfactorily.
- B. Replanting or repair necessary due to the Contractor's negligence, carelessness or failure to provide routine maintenance shall be at the Contractor's expense.

**END OF SECTION**

**SECTION 15045  
PRESSURE TESTING**

**PART 1 - GENERAL**

1.01 DESCRIPTION

A. Scope of Work:

1. This section specifies the leakage testing of pressure piping systems.
2. It is the intent of this specification section that all piping be pressure tested. At a minimum, the pipe shall be tested at 1.5 times the working pressure for a duration of two (2) hours, unless specified otherwise herein or in other specification Sections.

B. Test Pressures and Times: PVC, ductile iron, and stainless steel pipe for water, wastewater, or reclaimed water service mains shall be tested for a minimum of two (2) hours at 150 psi, unless otherwise required by City.

C. HDPE Piping, if any, shall be pressure tested in accordance with the separate High-Density Polyethylene Pipe requirements.

D. The Contractor shall test pipelines installed under this Contract in accordance with these specifications prior to acceptance of the pipeline by the City of Jacksonville Beach or connecting pipeline to any existing pipeline or facility. All field tests shall be made in the presence of the Engineer and/or City's Representative. Except as otherwise directed, all pipelines shall be tested.

All piping to operate under liquid pressure shall be tested in sections of approved length. For these tests, the Contractor shall furnish clean water, suitable temporary testing plugs or caps, and other necessary equipment, and all labor required. If the Contractor chooses to pressure test against an existing City of Jacksonville Beach main/valve, the City of Jacksonville Beach will not be responsible for failure of the pressure test due to the existing valve leaking. If positive test results cannot be obtained because the City of Jacksonville Beach valves will not hold the test pressures, the Contractor shall be required to disconnect from the City of Jacksonville Beach System and re-test independent of the City of Jacksonville Beach System and at the Contractor's expense.

E. Testing Records:

1. Provide record of each piping installation during the testing. These records shall include:
  - a. Date of test.
  - b. Identification of pipeline tested or retested.
  - c. Identification of pipeline material.
  - d. Identification of pipe section tested.
  - e. Test pressure.
  - f. Remarks: Leaks identified (type and location), types of repairs, or corrections made.
  - g. Certification by Contractor that the leakage rate measured conformed to the specifications.
  - h. Signature of City's representative witnessing pipe test.

2. Submit three (3) copies of the pressure test form to the City's representative upon completion of the testing.

## **PART 2 – PRODUCTS**

### 2.01 GENERAL:

- A. Testing fluid shall be water.
- B. The Contractor will use suitable pressure gauges, calibrated by an approved testing laboratory, with increments no greater than 2 psi. Gauges used shall be of such size that pressures tested will not register less than 10% nor more than 90% of the gauge capacity. Leakage and pressure testing shall be in accordance with AWWA C600 and as outlined below.

### 2.02 MATERIALS AND EQUIPMENT

- A. Provide pressure gauges, pipes, bulkheads, pumps, and meters to perform the hydrostatic testing.

## **PART 3 – EXECUTION**

### 3.01 TESTING PREPARATION

- A. Pipes shall be in place and anchored before commencing pressure testing.
- B. Conduct hydrostatic tests on exposed and above ground piping after the piping has been installed and attached to the pipe supports, hangers, anchors, expansion joints, valves and meters.
- C. Before conducting hydrostatic tests, flush pipes with water to remove dirt and debris.
- D. Test new pipelines which are to be connected to existing pipelines by isolating the new line from the existing line by means of pipe caps, special flanges, or blind flanges. After the new line has been successfully tested and cleared by relevant regulatory agencies, remove caps or flanges and connect to the existing piping.
- E. Conduct hydrostatic tests on buried pipe after the trench has been completely backfilled. The pipe may be partially backfilled and the joints left exposed for inspection for an initial leakage test. Perform the final test, however, after completely backfilling and compacting the trench.

### 3.02 TESTING

- A. Unless it has already been done, the section of pipe to be tested shall be filled with water of approved quality and all air shall be expelled from the pipe. If blow offs or other outlets are not available at high points for releasing air, the Contractor shall make the necessary taps at such points and shall plug said holes after completion of the test.
- B. Hydrostatic testing shall consist of a combined pressure test and leakage test. Specified test pressures, based on the elevation of the highest point of the line or section under test, and corrected to the elevation of the test gauge, shall be applied by means of a pump connected to the pipe in a manner satisfactory to the Engineer. The pump, pipe connection and all necessary apparatus, shall be furnished by the Contractor and shall be subject to the approval of the Engineer. All valved sections shall be hydrostatic tested to insure sealing (leak allowance) of all line valves.
  1. All piping shall be pressure and leakage tested for a minimum of two hours duration at the test pressure noted in paragraph 1.01 for the relevant type of service. Pressure tests shall be conducted with a pressure loss of not more than 5 psi regardless of length being tested. No pipe

will be accepted if pressure loss is greater than 5 psi. regardless of leakage test results. All exposed pipe, fittings, valves and joints shall be examined carefully during the test. Any damaged or defective pipe, fittings or valves that are discovered following the pressure test shall be repaired or replaced with sound material and the test shall be repeated until it is satisfactory. Repairing, replacing and retesting shall be done at the Contractor's expense.

- 2. Leakage tests shall be conducted simultaneously with the pressure tests. At the end of the pressure test, the line will be pumped back to initial test pressure. The quantity of water used to repump the line shall be measured and compared to the limitations calculated using the leakage equation below. No pipe installation will be accepted if the leakage is greater than determined by the following formula which is applicable to DIP, PVC, or combination of both:

$$L = \frac{SD P^{1/2}}{148,000}$$

In which L is the allowable leakage in gallons per hour; S is the length of pipeline tested, in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pounds per square inch. If any test discloses leakage greater than that specified above, the Contractor shall, at its own expense, locate and repair the defective material and retest until the leakage is within the specified allowance.

In the event a section fails to pass the tests, the Contractor shall do everything necessary to locate, uncover (even to the extent of uncovering the entire section), and replace the defective pipe, valve, fitting or joint. Visible leaks shall be corrected regardless of total leakage. Lines which fail to meet these tests shall be retested as necessary until test requirements are complied with. All testing shall be performed at the Contractor's expense.

- 6. If, in the judgment of the Engineer, it is impracticable to follow the foregoing procedures exactly for any reason, modifications in the procedure shall be made with approval; but, in any event, the Contractor shall be responsible for the ultimate tightness of the piping within the above requirement. For water mains, re-disinfection shall be required if the line is de-pressurized for repairs prior to tying into the City of Jacksonville Beach system.

**END OF SECTION**

**JACKSONVILLE BEACH WATER AND SEWER IMPROVEMENTS  
JACKSONVILLE BEACH, FLORIDA**

**APPENDIX A**

**Florida Department of Environmental Protection  
Notification of Acceptance of Use of the General Permit for Construction of Water  
Main Extensions for PWSs  
General Permit Number: 0128730-179-DSGP**



# FLORIDA DEPARTMENT OF Environmental Protection

Northeast District  
8800 Baymeadows Way West, Suite 100  
Jacksonville, Florida 32256

**Ron DeSantis**  
Governor

**Jeanette Nuñez**  
Lt. Governor

**Noah Valenstein**  
Secretary

## Notification of Acceptance of Use of a General Permit

Mr. Martin Martirone  
City Engineer  
North Water Plant #1  
1460-A Shetter Avenue  
Jacksonville Beach, Florida 32250  
[mmartirone@jaxbchfl.net](mailto:mmartirone@jaxbchfl.net)

**General Permit Number: 0128730-179-DSGP**  
**Project Name: 7th Ave S Water Extension**  
**County: Duval**  
**Effective Date: October 7, 2020**  
**Expiration Date: October 6, 2025**  
**Water Supplier: Jacksonville Beach WTP**  
**PWS ID: 2160563**

Dear Mr. Martirone:

On October 7, 2020, the Florida Department of Environmental Protection received a “*Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs*” [DEP Form No 62-555.900(7)], under the provisions of Rule 62-4.530 and Chapter 62-555, Florida Administrative Code (F.A.C.). The proposed project includes 140 LF of 8" PVC water main.

Based upon the submitted Notice and accompanying documentation, this correspondence is being sent to advise that the Department does not object to the use of such general permit at this time. Please be advised that the permittee is required to abide by Rule 62-555.405, F.A.C., all applicable rules in Chapters 62-4, 62-550, 62-555, F.A.C., and the General Conditions for All General Drinking Water Permits (found in 62-4.540, F.A.C.).

The permittee shall comply with all sampling requirements specific to this project. These requirements are attached for review and implementation.

Pursuant to Rule 62-555.345, F.A.C., the permittee shall submit a certification of construction completion [DEP Form No. 62-555.900(9)] to the Department and obtain approval, or clearance, from the Department before placing any water main extension constructed under this general permit into operation for any purpose other than disinfection or testing for leaks.

Within 30 days after the sale or legal transfer of ownership of the permitted project that has not been cleared for service in total by the Department, both the permittee and the proposed permittee shall sign and submit an application for transfer of the permit using Form 62-555.900(8), F.A.C., with the appropriate fee. The permitted construction is not authorized past the 30-day period unless the permit has been transferred.

7th Ave S Water Extension  
0128730-179-DSGP  
Page 2 of 3  
October 7, 2020

This permit will expire five years from the effective date. If the project has been started and not completed by that time, a new permit must be obtained before the expiration date in order to continue work on the project, per Rule 62-4.030, F.A.C.

Sincerely,

A handwritten signature in cursive script that reads "Jennifer C. Lyles".

Jennifer Lyles  
Collection/Distribution System Coordinator  
Permitting Program

c:

Angela Bryan, P.E., [abryan@4weng.com](mailto:abryan@4weng.com)  
DEP: Jennifer Lyles, Brian Durden, Olivia Miserandino

**A Civil Penalty May Be Incurred**  
**if this project is placed into operation before obtaining a clearance from this office.**

Requirements for clearance upon completion of projects are as follows:

**1) Clearance Form**

Submission of a fully completed Department of Environmental Protection (DEP) Form 62-555.900(9), *Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components into Operation*.

**2) Record Drawings, if deviations were made**

Submission of the portion of record drawings showing deviations from the DEP construction permit, including preliminary design report or drawings and specifications, if there are any deviations from said permit. (Note that it is necessary to submit a copy of only the portion of record drawings showing deviations and not a complete set of record drawings.)

**3) Bacteriological Results**

Copies of satisfactory bacteriological analysis (a.k.a. Main Clearance), taken within sixty (60) days of completion of construction, from locations within the distribution system or water main extension to be cleared, in accordance with Rules 62-555.315(6), 62-555.340, and 62-555.330, F.A.C. and American Water Works Association (AWWA) Standard C 651-92, as follows:

- The endpoint of the proposed addition;
- Any water lines branching off a main extension;
- Every 1,200 feet of water main;
- Each location shall be sampled on two consecutive days (at least 6 hours apart) with sample point locations and chlorine residual readings clearly indicated on the report and/or drawings.
- A sketch or description of all bacteriological sampling locations must also be provided.
- Bacteriological sample results will be considered unacceptable if the tests were completed more than 60 days before the Department receives the results.

For further clarification, contact:  
FDEP – Northeast District  
Potable Water Permitting  
8800 Baymeadows Way West, Suite 100  
Jacksonville, Florida 32256  
(904) 256-1700